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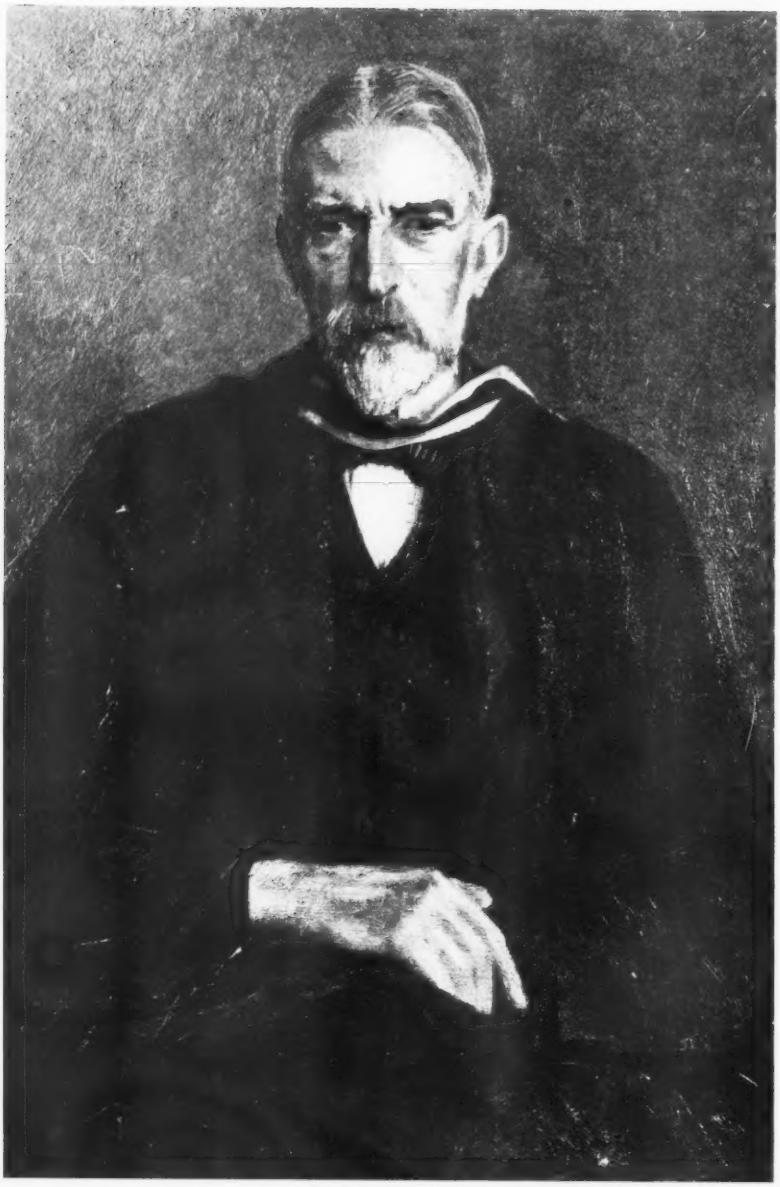


BERESFORD PITE

From the oil portrait by Sir William Rothenstein, recently presented to the R.I.B.A. by the artist

JOURNAL OF THE
ROYAL INSTITUTE *of* BRITISH ARCHITECTS

VOL. 43. 3RD SERIES 4 JANUARY 1936 No. 5

Journal

TECHNICAL ARTICLES

In recent years we have been able to make a special feature in the R.I.B.A. JOURNAL of the long technical articles on building types, processes and materials, the latest of which appears as the leading article in this number. Mr. R. F. Jordan, the author of the present article, is the senior honorary secretary of the Junior Members' Committee. Although his article cannot in any direct way be considered an outcome of the work of that committee, it is indirectly connected with its work if only as an indication of the measure of service which the younger members, who have often greater time and opportunities than their seniors for research, can give to the profession.

Economic and industrial factors have contributed largely to make a new age of timber building ; although in many of its details a modern timber building will use the methods of traditional timber construction and in particular of the type of construction used by the builders of the simple wood houses of Essex and the American colonies, described by Mr. Martin Briggs in his book on the Architecture of the Pilgrim Fathers, the modern house is different from its forebears in so many ways that a fresh consideration of timber building in relation to modern supply and demand was well overdue.

Reference to the work of junior members prompts also a reference to the fact that the leading article in the last number of the JOURNAL on 'Bus Garages was a thesis submitted in the Final Examination by a student of the Institute. All students, except those entering the R.I.B.A. through the schools recognised for exemption from the final, are required to submit a thesis. It is a remarkable testimony to the quality of the entrants to the profession that such thorough-going essays should be submitted in the course of what may too easily be routine examination work. Mr. Baddiley's thesis can be taken as a model of its kind. There are other kinds and we hope to be able to print in the next JOURNAL another Final Examination Thesis on a very different subject—the functional aspects of the Gothic style—which will perhaps help to show that youth and modern predilections do not automatically exclude the desire and the ability to make an exact and constructive study of past styles. Although none of the papers in the JOURNAL are published merely because they are by young members—they have to be submitted to exactly the same tests of quality as any other papers—we may be pardoned for drawing attention to this feature of their authorship and for commending them to the students who are about to write theses so that they can benefit from these good examples of order and style.

CHILDREN'S HOLIDAY LECTURES

For eight years almost the first public event at the R.I.B.A. after the return to work from Christmas has been the series of lectures to school children. The ninth series this year is being given by Mr. G. A. Jellicoe, who is talking to the children on Gardens. By ill luck, Mr. Jellicoe's first lecture was given on one of the most miserably rainy days imaginable, but even so the lecture room was crowded and almost 400 children were able to listen to a delightful and informal talk about Italian Gardens ; a more vivid contrast could not have been designed than that of Mr. Jellicoe's sunlit photographs of cypresses and fountains, and the bleak London outside. This alone would have been ample compensation for the journey of those who had come through the cold and rain from every corner of London. The second lecture dealt with French gardens and the last with English gardens.

The series was started in the Christmas holidays of 1927 at the suggestion of Mr. C. H. B. Quennell, who himself very properly gave the first lectures on Everyday Things, with Mrs. Quennell as his collaborator and his daughter as a model on whom historical dresses could be displayed. These lectures are not the least important memorials which Mr. Quennell, the happy playboy, joyous companion and great teacher—as Mr. Ramsey described him in the last JOURNAL—has left of his work.

THE R.I.B.A. AND THE "SCHOOLBOYS' OWN EXHIBITION"

The Schoolboys' Exhibition at the Imperial Institute, South Kensington, opened on Wednesday last and

continues open until 11 January. It is of particular interest to architects this year, for there is, for the first time in the history of the exhibition, an architectural exhibit. This has been organised by the R.I.B.A. Junior Members' Committee.

A competition is being held in connection with the exhibit and over sixty book-token prizes, of values from 3s. 6d. to £1, are being awarded. It is a competition which is open to the sons and daughters of all members of the profession, as well as of the public generally. Entrance forms are available on the exhibit and should not be missed by any visitor to the Imperial Institute. The Architectural Association and the Building Centre have collaborated with the R.I.B.A. in running this important competition.

The exhibit deals with the work of the architect in relation to the designing of a house. Starting from a drawing board, visitors will see how the house is planned, how the kitchen works, how the dining room works, how the bedroom works, how the house is heated, the importance of detail, and so forth. Each item is dealt with simply and directly, and, we might add, very humanly. The small caricatures of people using the various rooms are really delightful and will be enjoyed as much by visiting papa as by competing son and daughter.

New Year Honours

The architectural profession was poorly represented in the 1936 New Year Honours List, but the following names are of interest. Mr. J. Wilson Paterson, M.V.O., M.B.E. [*A.*], of H.M. Office of Works, Edinburgh, has been made a C.V.O. Mr. Ioan Gwilym Gibbons, C.B., C.B.E., Director of the Local Government Division in the Ministry of Health, has been made a Knight Bachelor. The appointment coincides with Mr. Gibbon's retirement. Mr. H. J. W. Hetherington, M.A., LL.D., Vice-Chancellor of Liverpool University, and Mr. James Norval, J.P., Chairman of the Scottish National Housing Company, and of the Scottish National Housing and Town Planning Council, have also been made Knights Bachelor. Mr. C. L. Stocks, Permanent Commissioner of Crown Lands, and Secretary Office of the Commissioners (Civil Division), whom many members will remember for his speech at the R.I.B.A. last year when he proposed the vote of thanks to Mr. Summerson for his paper on John Nash, has been made a C.B.

The A.A. Slide Collection

The Architectural Association has recently revised the rules governing the loan of lantern slides from its collection. For some time past the Association has allowed members to borrow slides at a charge of threepence each slide per week. This charge has now been reduced to twopence. The charge for A.A. members is as hitherto—one penny per slide per week. The cost of postage both ways is charged to borrowers. Borrowers are expected to make their own selection of slides, preferably by a personal visit or by sending a detailed list to the curator, or, if this cannot be done, by selection from the subject catalogues which will be sent on application to the A.A. For those lecturers who for one reason or another cannot make their own selection the A.A. has a scheme by which for a charge of one guinea the curator will make a selection of fifty slides to illustrate any particular lecture. The charge covers the cost of hire, packing and postage one way, and of course the considerable work entailed in selection. Borrowers who wish to make use of this service are advised to give the curator at least one week's notice. As general interest in architecture increases among all sections of the community many members are having calls made on them to lecture. The cheaper terms of loan to R.I.B.A. members is a welcome and friendly concession from the A.A. for which we are sincerely grateful. Full particulars can be obtained direct from the curator of the slide collection, the Architectural Association, 34-36 Bedford Square London, W.C.1

C.P.R.E., R.I.B.A. and I.O.B. Advisory Panels

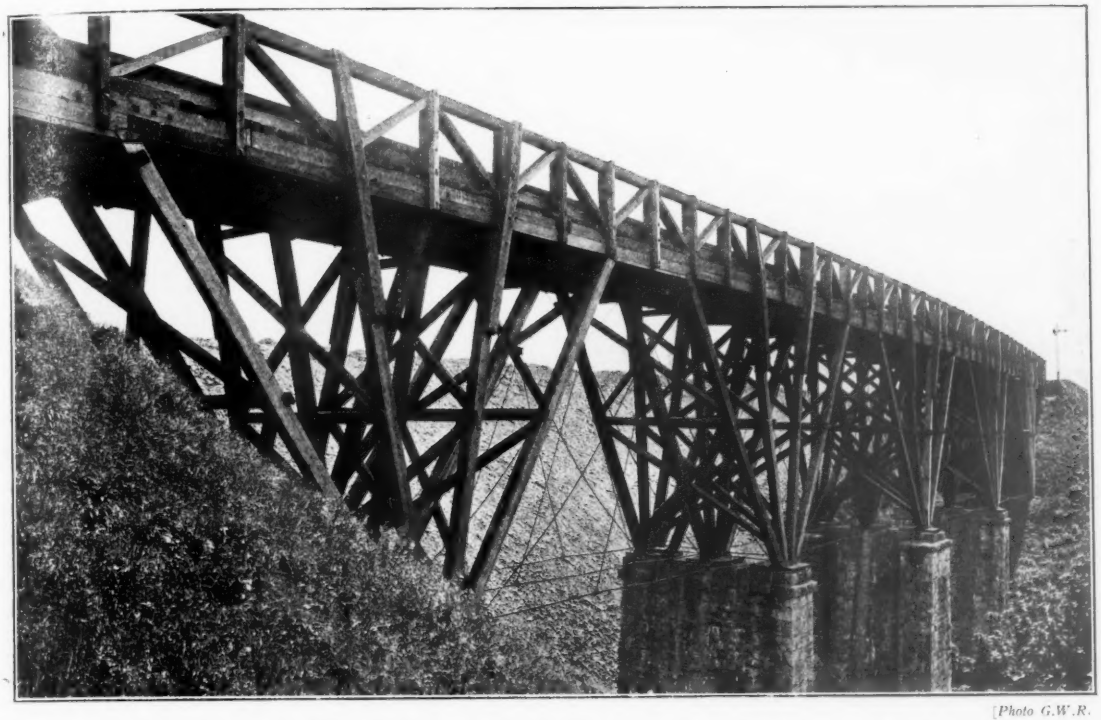
The attention of members is drawn to the Panel Notes which appear on page 261 of this Journal. The practice of keeping members informed as to the progress of the Panel Organisation in various parts of the country was commenced in the issue of November last, and will be supplemented from time to time as the movement progresses.

During the last three years much time and attention has been given to the great problem of an attempt being made to secure more sightly building in town and country, and it has been found that the generous offer made by Architects to give Planning Authorities the benefit of their trained advice through the Panels has in many parts of the country proved very helpful. The Planning Act of 1932 provides the power by which a better state of affairs in building design can be secured; but, unfortunately, the best method of exercising the power is not made clear.

The Central Panels Committee is endeavouring to prove to local authorities the value of the Panel service, and of late has received some encouragement.

Women Architects' Work

A note on another page announces that there is to be an exhibition at the Building Centre during February of the work of women architects. The exhibition is being arranged by the Centre with the help of women members of the R.I.B.A. and will consist of photographs, models and coloured drawings of interior decoration, furniture, etc. Any women members of the Institute who are interested are asked to send, in the first instance, small photographs or sketches to the Hon. Secretary of the exhibition, Miss Alma Dicker [*A.*], c/o the Building Centre, 158 New Bond Street, W.1, not later than 10 January.



[Photo G.W.R.

View of one of Brunel's Cornish viaducts on the G.W.R. It carried the main line until last year, when it was replaced

MODERN BUILDING IN TIMBER

By R. FURNEAUX JORDAN, A.R.I.B.A., A.A.Dip.

INTRODUCTORY

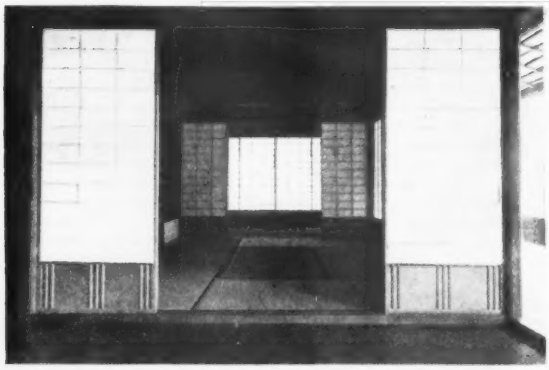
It is not the object of this article to deal with the enormous number of decorative timbers and veneers which are on the market, nor is it proposed to deal with the ordinary stock details of timber construction as used in buildings which are primarily of brick, stone or concrete. There are signs, however, of a renaissance of timber building in this country and it therefore seems to be desirable to touch upon one or two general aspects of the subject.

Timber has been one of man's principal building materials throughout history, probably it is the oldest of all, and it seems as well in an age when our ears are being assailed daily, almost hourly, by propaganda for the new synthetic materials that we should remember that the homelier and more ancient forms of building, timber among them, still exist and are still being used for the same good reasons as they always were. This does not mean that the old forms of planning and building are necessarily applicable to modern requirements and problems, rather does it mean that the good qualities inherent in timber itself make it singularly suitable and adaptable to contemporary needs.

This fact has been fully realised in the great timber-growing countries of Northern and Central Europe and in America and has combined with the general architectural awakening in these countries to produce many satisfactory and interesting results. Here, in England, the position has been rather different. For one thing the modern movement as a whole arrived later, and moreover a strong brick tradition and unsatisfactory conditions in the timber market combined with a certain degree of public prejudice to prevent the fullest possible development of timber building. There has also been a mistaken and rather inexplicable opposition by local authorities, due partly to an habitual blindness to the merits and the historical background of an unaccus-

tomed method of construction, and partly to the ill-repute into which timber building had fallen by reason of the " army hut " and the bungalow shack. In brick manufacturing districts local opposition has also probably been due to political reasons.

Another reason why timber building is not fully understood or appreciated in this country is that it is not really indigenous to England at all. Generally speaking it is a novelty. The house built entirely of timber is the natural product of the conifer belt—Russia, Scandinavia, Germany and North America. This, a deciduous country, has been famous for its oaks and elms, and half-timber construction has therefore been one of the glories of our past since it makes use of large scantlings in the hard woods. Where timber construction was used to the exclusion of other materials it was in counties like Norfolk and Kent, counties which were in touch with Norway and Denmark. It is modern transport which has made this a great timber-importing country and which has made timber building in the soft w oods a live issue to-day. If this had been fully realised



The " Rin-untei " Pavilion in the garden of the Emperor's Shugakuin Palace, Kyôto, built 1653

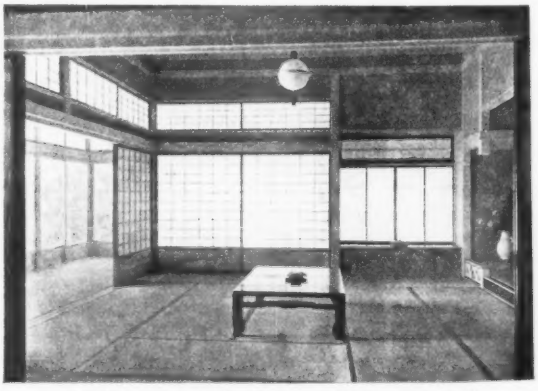
ten or fifteen years ago timber might have done much towards solving our national housing problems.

To the architect it is quite unnecessary to point out that timber buildings have in the past ranked with the highest forms of building. American houses, churches and public buildings of the Colonial days, the great country houses of Sweden and the genuine Swiss chalet all speak for themselves as to the durability, æsthetic possibilities and weather resisting properties of the material of which they are built. The great houses and palaces of Japan (p. 240) are less well known, but are worth mentioning because they show that timber construction is to be found under all climatic conditions provided the material itself is available. We may also note, in passing, how the same material produces the same forms and often the same treatment of detail in examples

The " Rinshukaku " Pavilion built in 1587 as part of the Juraku Palace, Yokohama

which are widely separated from each other in time and space.

One of the most impressive facts about timber on the structural side is its adaptability to modern methods of planning ; the wide spans and the flexible plan forms of the modern house might well have been evolved for a timber style rather than for steel or concrete. So far as decoration is concerned we have scarcely begun to realise the possibilities of the material. One of the first steps which we shall have to take is to see that we have a reliable series of stains and preservatives, properly graded and with a full range of colours. One is impressed in the timber building countries by the great variety of stains which are used both internally and externally, and by the obvious skill and experience with which the soft and subtle colours are handled.



Reception Room of a house in Tokyo, built 1928

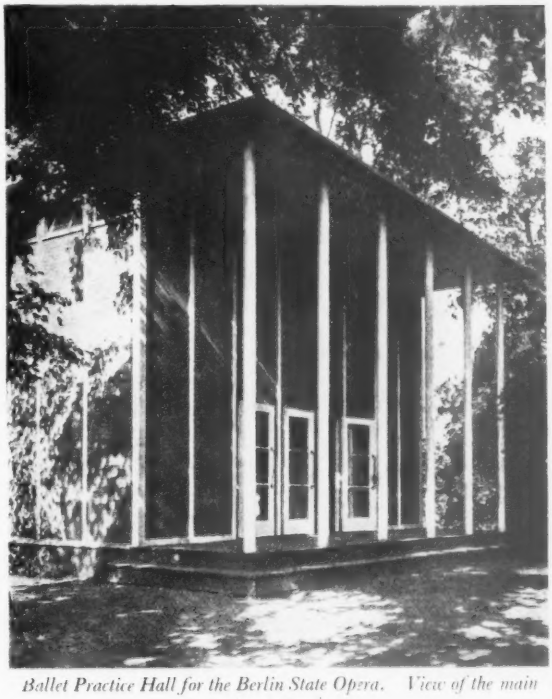
Many Swedish interiors follow an old tradition by using conventional patterns stencilled on the internal planking. The planking itself is stained in fine greys and greens and has its mouldings picked out with brighter colours. If we would make the most of the timber interior let us face it frankly as an exercise in wood and paint and avoid papering or plastering our walls. Whether plywood or boarding is used internally there are opportunities for the creation of a new technique in decoration ; a technique which is economical and which may receive as modern an interpretation as the artist wishes. At any rate there seems to be scope for some inexpensive form of colour decoration which might be rather a relief at a moment when a functional puritanism has streamlined everything into a style of pure negation.

THE MATERIAL

It is not the object of this article to deal with timber as a material. When it is remembered that there are over three thousand kinds of wood in the world's markets it will be seen how vast the subject is. There are, for instance, over two hundred and fifty different kinds of oak. Geographical distribution, afforestation and conversion are all complete and self-contained subjects. If timber building is going to develop in the way which appears likely the most urgent need will be a complete and authoritative system of grading. This does not at present exist, although much valuable work is being done by the Timber Development Association, who can supply valuable information on most subjects connected with timber. The reader is also referred to an article in the R.I.B.A. JOURNAL for 8 April 1921, by Mr. Scarles Wood on Empire Timbers, to a Bulletin of the Imperial Institute, Vol. 29, I, 1931, and to a supplement to the *Architectural Review* for August 1934.

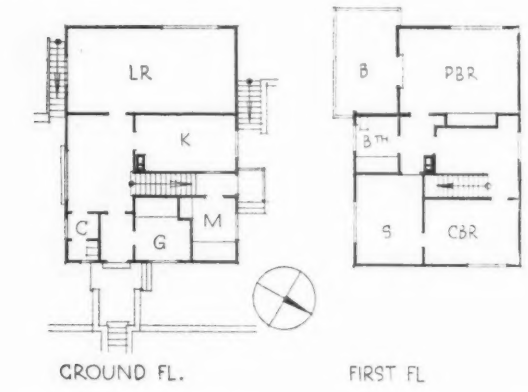
Some of the advantages of timber as a material are immediately apparent, as are also some of its limitations. The latter are not, however, insuperable provided they are carefully studied and the facts realised. Many of the difficulties connected with timber building are due to lack of proper information or to prejudice in the minds of clients rather than to any disabilities inherent in the material itself. Some of the objections usually raised against timber are its lack of durability, its vulnerability to diseases such as dry-rot, its inflammability and its tendency to shrink and twist. These points will be referred to again. Some of the advantages of timber as a material for general building are obvious. It is a pleasant, clean material, with an attraction of its own. It is a homogeneous material—that is to say, it does not have to be either poured or moulded or built up block by block. Factors which are difficult to control such as bad mixing in concrete are eradicated. Timber is a resilient material, " sweet " and easy to work and, in some of its forms, pliable and elastic.

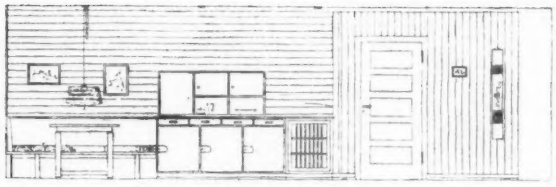
Foundation walls and chimney stacks must, of course, be either of concrete or of brick—the stack may most economically be of pre-cast concrete blocks in the case of



Ballet Practice Hall for the Berlin State Opera. View of the main entrance portico

Tourist Hotel on the Zugspitze Mountain, S. Germany





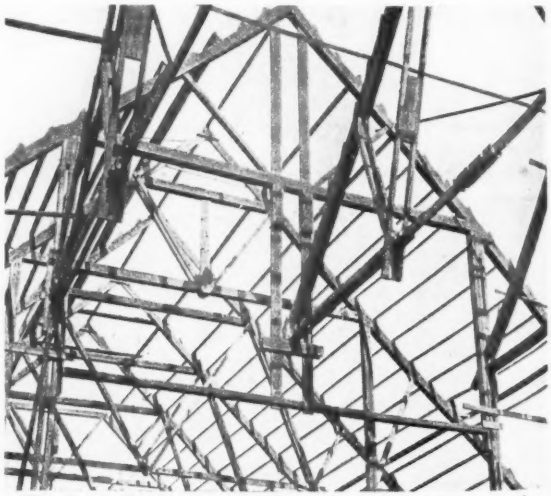
House at Stuttgart for Dr. Gundert
Architects : Volkart & Trudringer
Key to plans :—L.R., Living Room : K., Kitchen : B.R., Bedroom : B., Balcony : S., Study. Below :—Elevation of Living Room wall Right :—View from the South

estate work—but apart from that timber may be used almost to the complete exclusion of other materials. The skeleton or frame with both its internal and external lining, doors, windows and fittings may all be of timber. This helps to give a great unity of effect, as is clearly shown in the interior of the house at Stuttgart by Volkart and Trudringer (see above). The use of one material to the exclusion of others is also, of course, a great economy, as the number of different "trades" on a job is reduced to a minimum. Another great advantage is that different coefficients of expansion as between materials in juxtaposition are abolished—the crack between door architrave and plaster or between window-frame and brickwork is entirely done away with. The abolition of the plasterer's trade from the average domestic building where first-rate plastering is difficult to obtain will be welcomed by many. Shrinkage cracks, sweating and the lengthy process of drying-out might disappear if people could be made to see the possibilities of a timber internal finish.

Above all, perhaps, timber is an extremely light material in proportion to its strength. Red cedar, one of the lightest of the soft woods, weighs only 27 lbs. per cubic foot, but even at the other end of the scale, red oak, the heaviest of the hard woods, weighs only 64 lbs. per cubic foot.

The lightness of timber combined with great strength, when added to the fact that it may be obtained, very often, in long lengths, has enabled big spans to be covered with very lightly-built trusses and girders. This last point, although it is common knowledge, does not in practice seem to be appreciated to the full. We are familiar with the light Belfast truss and with the heavier mediæval trusses, but structural possibilities go further than is generally realised.

In theory there is almost no limit to the braced and triangulated structures which can be built up from quite light scantlings. The enormous buildings of the French Colonial Exposition, although finished in fibrous plaster were nearly all built in timber with scantlings of 9 in. by 3 in. or less. Even the main posts consisted of two 9 in.



The Dutch Pavilion, at the Paris Colonial Exhibition, under construction. Architect : P. A. J. Moojen. Engineer : I. C. Wegerif

by 3 in. members bolted together with 3 in. distance pieces between. The photograph (page 228) gives an idea of the size of one of these structures, some of which were completed in from three to five weeks. The stress allowed on all members in both compression and tension was 1,500 lbs. per sq. in. This, of course, is a high figure, but the weakness of big scale timber building has always lain not in the members themselves, but in the joints between them. When Germany, in the War, was compelled to turn to timber for large scale factory and aerodrome buildings, the elaborate and laborious interlocking type of joints was abandoned in favour of metal connectors of iron or steel. By means of metal angles, plates, bolts, boat spikes, etc., enormous structures were built with such success that the tradition was established and big scale timber construction is a commonplace in Germany to-day, especially in the Stuttgart neighbourhood. These metal connectors for large-scale structures were worked out originally, of course, in America by lumber manufacturers for their own mills, and the U.S. Department of Commerce (National Committee of Wood Utilisation) has issued a publication on "Modern Connectors for Timber Construction." This publication appreciates the German work and illustrates two good examples of large scale wooden building. These are Stuttgart Station with its sixty-five foot span and the two wireless masts outside Stuttgart, each 330 feet high, and built of yellow pine with wood dowels and brass bolts.

We also show an illustration (page 225) of one of Brunel's Cornish bridges. It will be seen how the whole was built up of comparatively light members bolted together. This bridge was as full a use of timber on a large scale as could be imagined, and since it carried the main line G.W.R. expresses until last year, it is fair evidence of the durability and of the strength of timber.

In smaller scale building of domestic type these big structures may be borne in mind as evidence that large spans and cantilevering are both easy of attainment in timber. This means that in the timber house we may have the open and flexible plan, the roof terraces, the overhanging balconies and the long stretches of window to which concrete and steel have made us so accustomed. How "concrete-like" are the proportions of the openings in the mediæval Japanese house which we illustrate, and in the other modern houses.

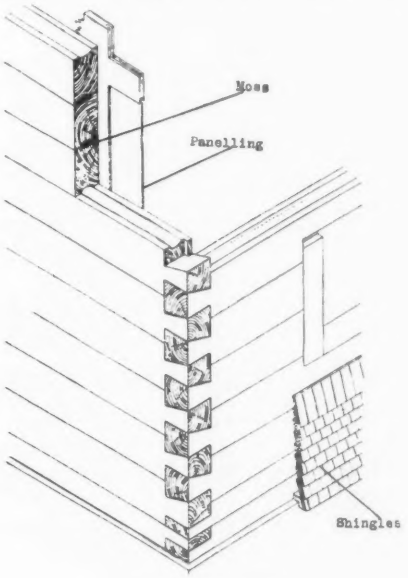
THE STRUCTURE

Some points in the structure of the house have already been mentioned, but generally speaking the structure divides itself into two parts—the skeleton and its covering, internal and external. An exception is where the wall is built solid and is therefore all skeleton. This type of construction, heavy scantlings interlocking at the corners in the log cabin manner, has been used considerably in Germany, but it is the exception rather than the rule. It is not likely to be used except where there is ample timber on the spot and, obviously, it does not allow of such free planning.

Generally the skeleton is built up on the spot, on the cill formed by the foundation wall, which must be brought well clear of the ground. If, however, the prefabricated sectional house becomes as common as it may do, the procedure would be different in that it would be sections or whole slices of wall which would be erected on the foundation wall instead of the separate members of the framing individually.

Whether the wall is put up in sections or the vertical scantlings separately the tying down to the cill piece is of the greatest importance, especially where cantilevered construction produces a big turning movement or where the site is exposed to wind. Strong angle irons should tie the vertical members to the cill piece and that in turn should be well bolted to the concrete or brick wall.

It should be remembered that timber shrinks seventy-five times as much crossways as it does lengthwise and that long small scantlings are therefore more use than short heavy ones. For this reason the vertical members in the framing of a two-storey house should run from cill to roof direct and not merely from cill to first-floor. This use of long scantlings is one of the reasons why timber lends itself to high building. Apart from obvious examples in the way of mills and silos there are many modern houses where this quality of timber is made the most of in order to take up part of a house for three or four storeys. This provides terraces over the lower portions and gives an added interest to the massing. We remember an example in a German forest where the



Log Construction

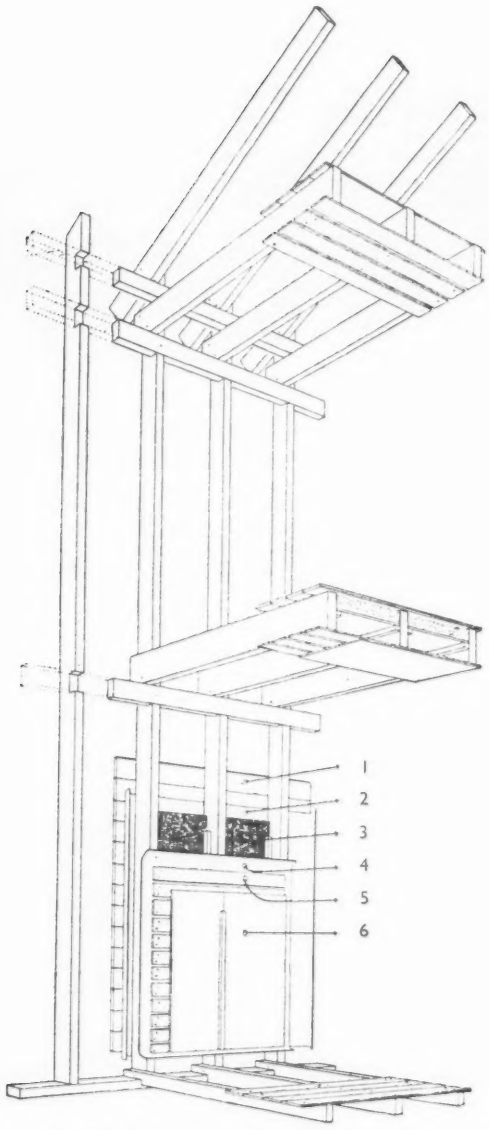
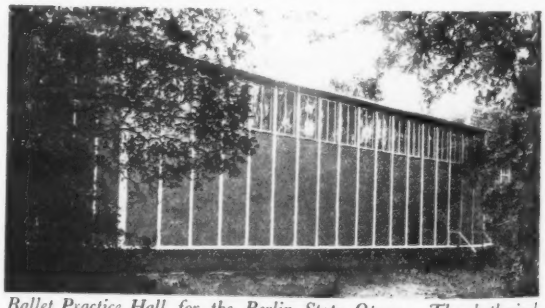


Diagram showing a modern German method of timber frame construction

Key to drawing :—1. Weatherboarding ; 2. Impregnated paper ; 3. Peat slab insulation ; 4. Insulating pasteboard ; 5. Battening ; 6. Wallboard or plaster board

A wooden dance pavilion in the City Park, Leipzig. Architect, Prof. Karl Bertsch

A wooden house in Germany by E. Katner and F. Waage



Ballet Practice Hall for the Berlin State Opera. The rhythmical spacing of the vertical supports is emphasised by the use of colour

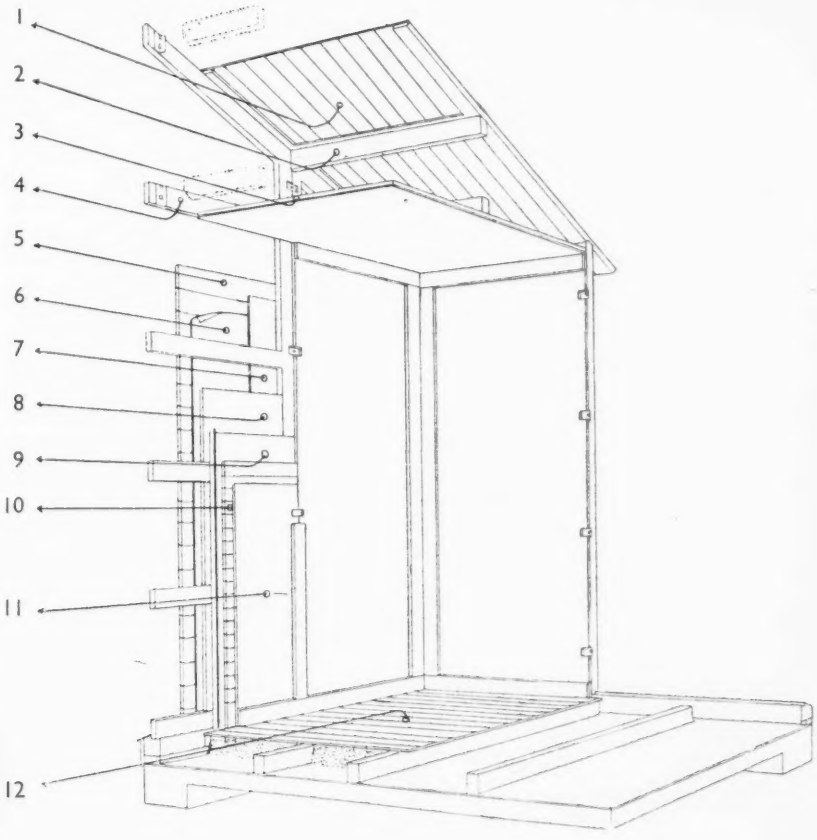
Roofing a circular pavilion with radial wooden lattice girders. Dipl.-Ing. Seiler, Leipzig

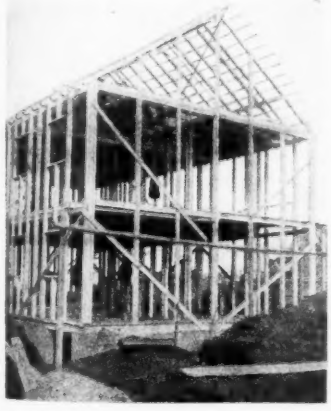
The country house of Prof. Albert Einstein at Caputh, near Potsdam. Architect, Konrad Wachsmann

Diagram showing a modern German method of timber frame construction

Key to drawing :—1. Roof boarding ; 2. Purlin ; 3. Ceiling with peat insulation ; 4. Roof truss ; 5. Weatherboarding ; 6, 7, 9. Insulating pasteboard ; 8. Peat slab ; 10. Battening 11. Wallboard or plaster board ; 12. Floor boards

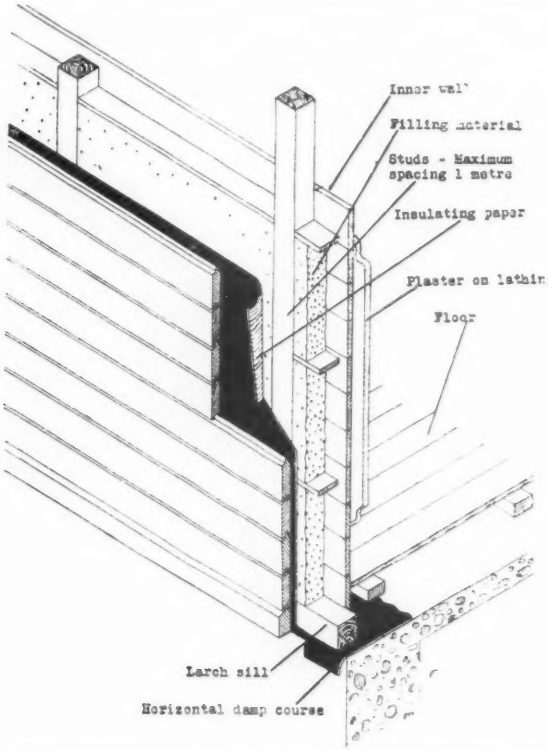
Below :—A typical timber-framed house in construction



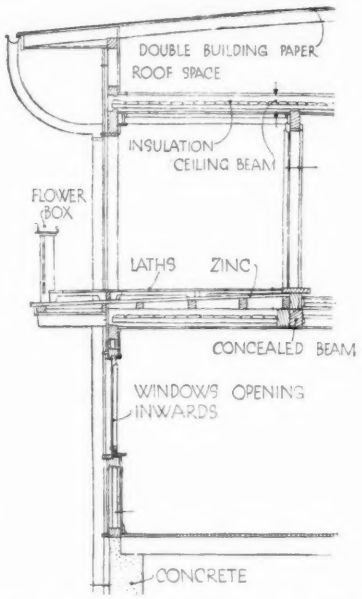


upper rooms look out over a landscape of tree-tops. One portion of a timber building can be taken up higher than another but owing to the lightness of the structure the foundations are not complicated owing to fear of unequal settlement as between one part of the building and another. The possibility of building high in timber is another analogy between that material and steel.

Another great advantage of height is that depth can be lost in the thickness of floors and roof without damaging the proportions of the rooms. The extra cube due to this increase in height does not add proportionately to the cost as it would in a brick house. Owing to the extra floor depth gained beams can, if desired, be concealed above a flush plywood ceiling and yet the joists can rest their full depth on the beam instead of being framed down into it. There may be as much as 18 in. between ceiling and floor, and the deep floor-space thus gained helps in insulation against sound and in efficient ventilation of the timber. In the same way a really big insulation space of as much as two or three feet may be left between the bedroom ceilings and the flat roof (see opposite). Although an insulating material should be used in addition over the ceiling this deep roof space is a real solution of the problem of insulating a flat roof against heat and cold.

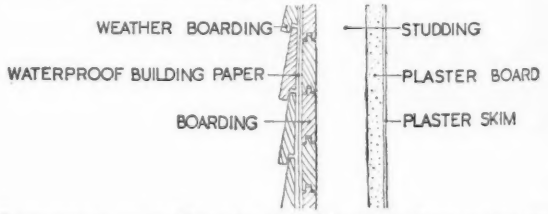


Frame construction with insulating filling between inner and outer walls



House at Stuttgart for Dr. Gundert. Balcony Section. Architects: Volkart & Trudringer

So far as the wall itself is concerned it is unwise to rely on weather-boarding alone as an outside covering, but the following seems to be a good "recipe," both from the point of view of efficiency and economy: First, on the outside, comes the weather-boarding, with the under-edge of each board notched to take the top edge of the board below; secondly, there is a waterproof building paper, and thirdly, $\frac{3}{4}$ in. grooved and tongued boarding. The waterproof building paper thus forms a sandwich between the outer weather-boarding and the grooved and tongued boarding which is fixed on to the outside of the main framing or skeleton. On the inside of the framing is a wall-board covered with a plaster skim or else a plywood finish. This wall is economical and is extremely efficient from the point of view of heat transmission as the following figures show:—



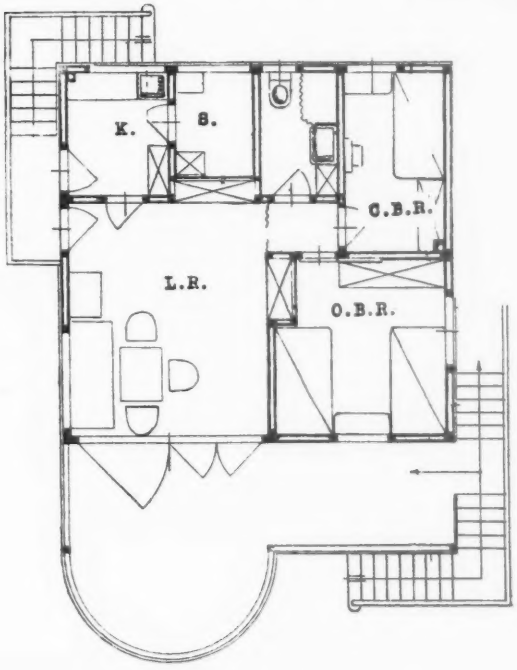
Diagrammatic section illustrating thermal insulation figures on page 233

> The measure of heat transmission is the "Co-efficient of Heat Transmission," which is the amount of heat in B.T.U.s radiated, absorbed or conducted by a surface of 1 in. thickness of a material per square foot of that material per hour per degree of difference of temperature between inside and outside.
>
> On this basis the wall as described above transmits .189, whereas a 9 in. brick wall plastered transmits .213.

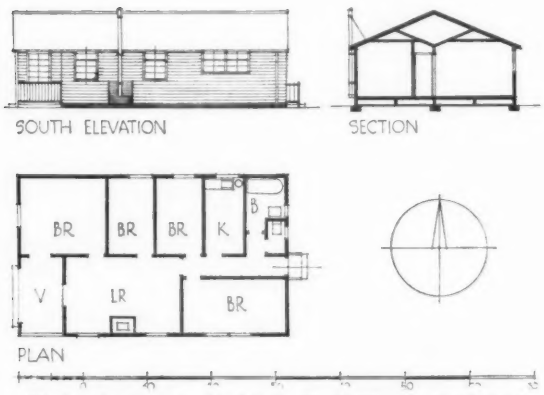
This seems to be fairly conclusive evidence as to the heat insulating properties of a wall of this description. Asbestos sheets may be substituted for the wall-board, giving a greater resistance to fire, or the inside of the framing may be lathed and then boarded. One of the keynotes of success is the proper selection of timber for the outside weather-boarding.

Boarding externally may be vertical instead of horizontal, in which case it is butt-jointed and has cover fillets over the joints. The use of vertical and horizontal boarding in the same building can be extremely effective and should be taken advantage of to give vertical or horizontal emphasis to different elements in the same group. (Vertical or horizontal emphasis in the jointing of a facing material such as faience is a parallel instance). The house by Volkart and Trudringer (see page 228) has already been referred to in connection with the unity of its all-timber interior, and it is also an example of an internal use of boarding in two directions. The boarding itself is also contrasted with the flatter finish of the plywood fittings. Note also the heating unit worked neatly into the design of the room as a whole. Internally the boarding may be either left natural or oiled or varnished or painted, or, as has already been suggested, stained and then treated decoratively with paint. Externally the boarding will probably be painted too and here lies the great opportunity of timber house design. A careful study of the colours used in countries with a timber house tradition leads one to the conclusion that very bright colours can be used without any effect of gaudiness: many of the Scandinavian houses are of a very deep red with white cover fillets and white window frames, with perhaps a third colour on doors and window-shutters. There is, however, in this country, another alternative. Boarding in oak or elm may be used externally and left natural so that it will in time go the lovely silver-grey colour which distinguishes so many English barns and field gates and fences. There seems to be no reason why this use of oak should not be applied to a really modern timber house.

If, however, a soft wood weather-boarding is preferred it is essential that it should be carefully chosen. "Bungalow siding" is obtainable in 8 in., 10 in. and 12 in. widths and is $\frac{3}{4}$ in. thick at one edge and $\frac{3}{16}$ in. at the other. This form of boarding is not, however, notched at the bottom edge to receive the top edge of the board below. This seems to be desirable and it would therefore be better to use "Drop siding," although this is only obtainable in 6 in. widths, $\frac{3}{4}$ in. thick. It can be had in red cedar, Douglas fir or Western hemlock. Red cedar has the advantage of taking paint readily although it may be waxed or oiled instead or even left natural. According to tests made at the Forest Products Research Laboratories at Princes Risborough, red



A summer house on the Danube
Key to plan:—L.R., Living Room; K., Kitchen; S., Servants; O.B.R., Own Bedroom; C.B.R., Children's Bedroom



Week-end cottage in Norfolk by F. Halliburton Smith [*A.*]

cedar is practically immune to dry rot even when kept in contact with active dry-rot for many months in unventilated conditions.

One point to remember in a timber house is that the floor has to play its part in strengthening the whole framing and it is therefore useful to have a sub-flooring of rabbeted boarding nailed diagonally across the joists.

The general framing should be of 4 in. by 2 in. studs, but these may be at 16 in. centres. Angles should be well braced, and trimmed openings in floors and all door and window openings should, if possible, be double-studded for strength.

The roof covering is a more vexed question. So far as a flat roof is concerned many of the foreign examples rely on a double layer of building paper laid direct on the boarding. This is probably unduly optimistic and most people will prefer the more usual boarded and asphalted flat with the usual precautions, such as a layer of cork or pebbles, against insulation. The alternative—a deep space between roof and ceiling—has already been mentioned. For pitched roofs there is always something unsatisfactory about tiles or slates above a timber wall, due to the feeling that a light material is carrying a heavy one. The contrast between the two materials is too great and it seems a pity too, if economy is important, to introduce another trade on to the job. The house designed by Mr. Halliburton Smith [*A.*], which we illustrate, uses asbestos slates very effectively.

There seems to be no reason why shingles should not be revived as a covering for pitched roofs on timber houses. It is a time-honoured material with much to be said in its favour. If shingles are used the pitch of the roof should not be less than one-third. The shingles themselves may be of red cedar and should be laid with copper nails, two to each shingle, and with a good lap. It is essential that copper nails should be used, and the lap should be such that only 5 in. of a 16 in. shingle is exposed. To allow for swelling, shingles in the same course should be from $\frac{1}{8}$ in. to $\frac{1}{4}$ in. apart. If these points are observed and the work well done the minimum life of a shingle roof is forty years. Shingles are obtainable in 16 in., 18 in. (Perfections) and 24 in. (Royals) lengths.

FIRE RISKS AND PRECAUTIONS

In the popular mind this is probably the chief bogey of timber building. It need not be so. Anyone who has stood inside a brick house before floors are laid and before tiling has begun, and has looked up through the joists and the stud partitions to the rafters, will have realised what a mass of timber is the non-timber house. The risks of one are to some extent the risks of the other, and this is especially so when we remember that the cause of fire is nearly always internal.

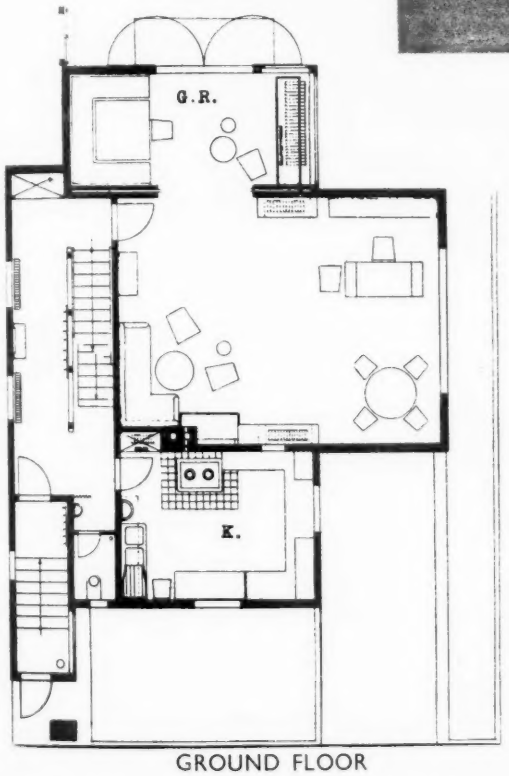
In this connection it is interesting to note that the Board of Fire Underwriters in the U.S.A. recently surveyed over a million houses, 75 per cent. of which were of timber. The result showed 1.65 fires for each hundred timber houses and 2.43 fires for each hundred brick or stone houses.

Proper precautions must, of course, be taken, but these can be of a very simple nature. First, there must be proper supervision of the flue construction to see that the joists and trimmers are kept their right distance from the brickwork. Secondly, certain precautions may be taken with a view to localising a fire if it should occur. Solid strutting between joists to prevent the spread of fire under the floor is one such precaution. Small borings in the strutting allow proper under floor ventilation without interfering with the efficacy of the strutting as a "fire-stop." Another form of "fire-stop" is a block of incombustible material between the rafters at the point where, in a brick house, we should put beam-

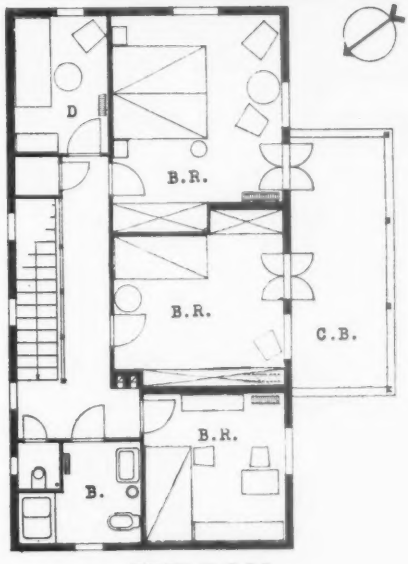
Week-end cottage in Norfolk by F. Halliburton Smith [*A.*]. *View from S.W.*

The first and ground floor plans can be largely independent of each other in a timber house

Key to plans:—K., Kitchen; G.R., Garden Room; B.R., Bedroom; D., Den; B., Bath; C.B., Covered Balcony



GROUND FLOOR



FIRST FLOOR

filling. This should prevent the spread of the fire unnoticed in the roof. In this matter of taking precautions against fire in the original structure the reader is referred to "Fire Prevention and Protection," by J. Kendall Freitag, B.Sc.E. (New York, 1921).

The fact that timber houses, if well built, are not really more liable to fire than brick ones, is accepted by the insurance companies in this country, who will now insure approved timber houses at 1s. 6d. per cent. In view of this it seems to be unnecessary to take more elaborate precautions than those mentioned above, such, for instance, as lining the walls, internally, with asbestos sheeting.

DURABILITY

The factor of durability must always be one of paramount importance and this is especially so in the timber house, from two points of view. The timber house, because it lends itself to some form of mass production, is likely to become very common in housing schemes and for estate work. In work of this kind it is essential that upkeep cost should be kept down to an absolute minimum and durability is, therefore, of the greatest importance. It is also very important that the durability of the timber house should be established beyond doubt because its alleged temporary character is regarded with no friendly eye by the building societies.

To the architect who is familiar with the Colonial 18th century house and with the mediæval timber houses of Germany, the durability of timber building is self-evident. To the official mind the timber house means something quite different; it means the shack and the "army hut." One often finds that the reputation of the timber house is based on this point of view.

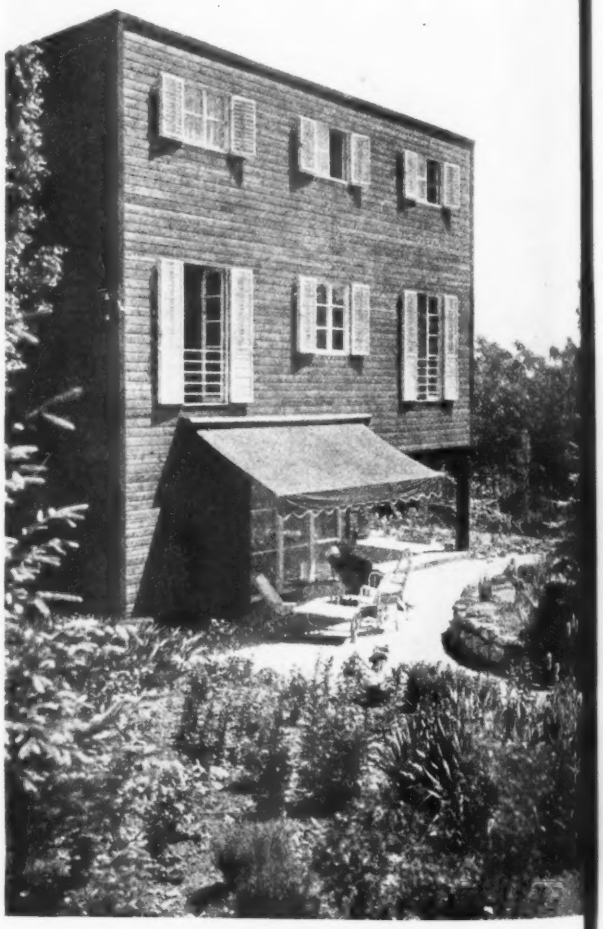
On the other hand the Board of Education give forty years of official life to timber schools. In view of the historic examples of timber building this seems to be a low figure. In any case it should be remembered that the modern attitude to the life of a building is, for good or ill, to regard durability in itself as no great virtue. Planning requirements and internal equipment change so quickly that a modern building is very soon obsolete. Half-a-century of useful life is probably all that is required of most small modern houses, and of the seaside and week-end type much less is required.

What is required is that the life of the house should be short but healthy—this means that there should be sound construction and proper ventilation in order to resist dry-rot, and that proper preservatives should be used and applied in the right way. In this connection the Director of the Timber Development Association, Mr. E. H. B. Boulton, M.C., M.A., in his lecture at the Building Centre last January, remarked :—

> ". . . without doubt, the finest preservative is creosote. There are two methods of impregnating : under pressure and by steeping. To brush the timber with creosote is no good ; you must have impregnation. Creosote is an amazing preservative and has many advantages. Telegraph poles stand in this country for sixty years, and creosoted railway-sleepers last twenty-five years under main line tracks, and are moved only because the rails are worn out, and afterwards they are used on branch lines and often left for a further twenty years."

It should be remembered that telegraph poles and railway sleepers are in actual contact with the ground, whereas timber used in house construction is not. Speaking about the durability of timber buildings generally, Mr. Boulton went on to say :—

> "In this country, particularly during the last few years, a large number of timber houses, bungalows, schools, and so on have been built. Very largely these buildings are constructed of British Columbian pine, the roofing material being Western red cedar, called cedar shingles. This Western red cedar timber is probably the most durable in the world ; in the United States there are houses built of this timber which are 120 years old and perfectly sound."



A good house design in timber

COSTS

The low cost of the timber house is not only an important factor in itself but also because low cost will probably be the strongest argument in overcoming popular prejudice against building in timber. A big estate owner has remarked, " I am convinced that the timber house is as good or even better than the equivalent brick house, but before I can persuade people to accept it I must know that it is not only as cheap, but cheaper."

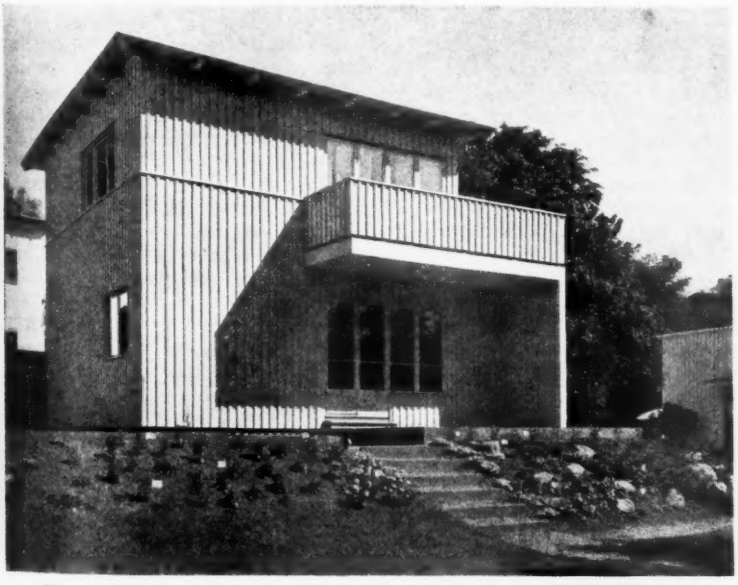
It is always difficult to give comparative costs in actual figures between one method of building and another. There are so many external facts and governing conditions that a scientific comparison between two different buildings is almost impossible ; but the conclusion that one comes to after examining a fair range of buildings is that the saving in cost as between timber and brick is about 15 per cent. for the small house and as much as 25 per cent. for houses costing over £600. These seem to be reliable figures for this country. In countries such as Germany and Sweden, where the timber market is established on a rather sounder basis, the saving is even greater. This suggests that a saving of from 20 to 30 per cent. or even more might be made in this country if timber building was developed in such a way as to make a real difference to timber consumption. More of the timber detail used might be studied and then standardised for national use. If we can establish a modern English tradition of timber building so that a timber job will cease to be regarded by the builder as something exceptional, then we have gone a long way towards solving the economics of small house building.

An experiment has recently been made with a semi-detached house having a living-room 12 ft. by 15 ft., three fair sized bedrooms, bath-room, W.C., and kitchen. The house was designed for England and for English ways of living, but the dimensions were adapted to suit an existing system of pre-fabricated sections made in Sweden. In spite of the fact that over £30 was absorbed in freight and duty in importing the sections from Sweden, the total cost of the house was (exclusive of land, fencing and architect's fees) well under three hundred pounds. All the work except the making of the actual timber sections was, of course, done here by an English contractor.

The house in Norfolk, designed by Mr. Halliburton Smith (see page 234) may be given as an example of an English timber house which was not, of course, built as part of an estate. It was intended as a holiday house and so it has not got quite that degree of finish and equipment which might be found in a more permanent home, but it is well built and comfortably planned. The total cost worked out at 9d. per cubic foot. The colour is worth noting, because the walls have been painted a pleasant blue to harmonise with the grey asbestos slates.

First cost is not, of course, the only consideration, since upkeep, especially on an estate, is of primary importance. Painting, renewal of preservatives, etc., must surely make this factor tell in favour of the brick house, but against it must be put a good deal of flashing, re-tiling and re-pointing which does not occur in the case of timber. In this connection an authenticated statement made by the British Columbia Timber Commissioner is of interest :—

> " Not only is a timber house cheaper in first cost, but its cost of upkeep is less. This statement is based on the experience of Mr. Percy Waldram, F.S.I., L.R.I.B.A., who was, during the War, responsible under H.M. Office of Works for the upkeep of two groups of houses at Well Hall, near Woolwich, built for munition workers. One estate comprised a group of 1,100 houses in the usual brick construction, the other some 1,300 houses of light timber framing. Mr. Waldram found that the average cost of maintenance per house was some 30 per cent. less on the timber



House in Sweden, showing use of vertical boarding. Architect : Birger Jonson

houses. The L.C.C. has had similar experience. In 1927 they imported twelve pre-cut timber houses from Sweden, which were erected at their Becontree Estate, where the other houses were of brick construction. These twelve are among the few on the estate with which they have had no trouble."

Needless to say, if similar benefits are to be assured the right timber must be chosen, proper precautions taken against dry-rot in the matter of ventilation, and the finer points of construction well understood.

In some of the patent sectional houses put on the market in this country the prices do not bear out the figures given above, in spite of the fact that such houses are mass-produced. They do not even claim to be cheaper than brick houses, but it is worth noting that in such houses over half the total cost is absorbed by contractors' work—foundations, chimneys, plumbing and wiring. If such houses had their heating and plumbing units as centralised as the most rational modern planning could achieve this figure would be very much reduced. In other words, the pre-fabricated or sectional house has never had a chance to show what it can do in this country if it was really properly designed in a modern way. Some of the designs of patent houses on the market are not so bad as they used to be, but they still pander to the picturesque, and from the point of view of cost they are not really rationally planned.

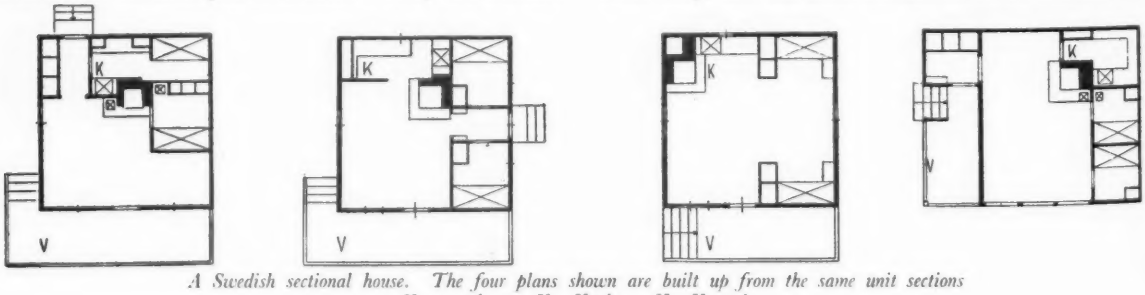
PLANNING

In designing the timber house the designer's approach to his whole problem must be quite different from what it would be in the case of, say a brick house if he is to develop fully the latent possibilities of his material.

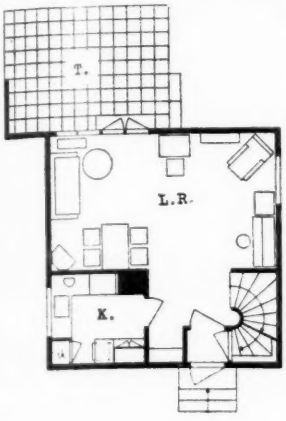
The possibilities latent in the timber plan were fully realised by the Japanese centuries ago. The material available, the need, in an earthquake country, for a light form of construction and an inborn sense of good proportion all contributed to the planning of buildings such as the Katsura Palace at Kyôto (1589-1643). This palace (see page 240) is typical of the larger Japanese houses of sixteenth and succeeding centuries. Its plan is astonishingly modern in many respects and shows a freedom and flexibility which would only be possible in a very light form of construction. It seems to have realised some of those qualities which have been striven for by Frank Lloyd Wright and by Corbusier, and it shows that the idea of arranging a series of apartments, each well proportioned and well lit for its purpose, in convenient relationship to each other, was an idea which was fully developed in the Far East many centuries ago. The paper and fibre-covered partitions, so similar in appearance to plywood, and the long proportions of wide-spanned openings as well as the general simplicity of treatment, all help to give a very modern aspect to the interior.

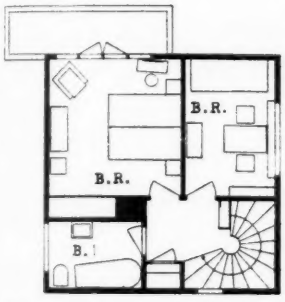
This adaptability, this ease with which pleasant proportions can be interpreted into reality, is fairly obvious in the examples illustrated. They are the sort of proportions which have been evolved with difficulty in concrete, in timber they arise almost of themselves. The ease with which the timber plan can be altered and added to is obviously of great value to-day when it is essential that a house should be economically built in the first place but equally essential that it should be easily adapted to rapid changes in the manner of living.

This flexible type of plan which is peculiar to timber may be considered under three heads—(*a*) the unit house, (*b*) the pre-fabricated sectional house, (*c*) the "Kernhaus," or extensible house. (*a*) The unit house. The unit house is only known to us here as the ordinary sectional portable affair, lacking refinement of construction and skill in planning and nearly always of rather indifferent design. The idea has, in America, been taken a stage further, in concrete as well as in timber, and you buy your house complete even to the food in the larder and the blankets on the bed. The whole thing is delivered on a lorry and in a matter of hours your house is complete with the pot boiling on the electric cooker. This is, of course, a typical piece of American salesmanship, but actually the house itself is decently designed and well worked out with one central mechanical unit which deals with heat, light, wireless and all the other gadgets of even the cheaper kind of American house. Whether we like the idea or not, it is to some such "bought over the counter" type of house that we seem to be heading. It had better be well designed rather than badly, and the most suitable material seems to be

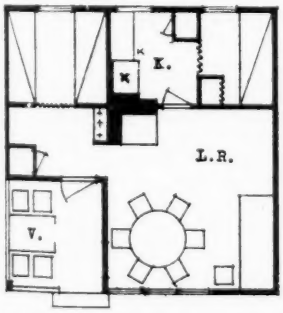


A Swedish sectional house. The four plans shown are built up from the same unit sections
Key to plan:—K., Kitchen; V., Veranda





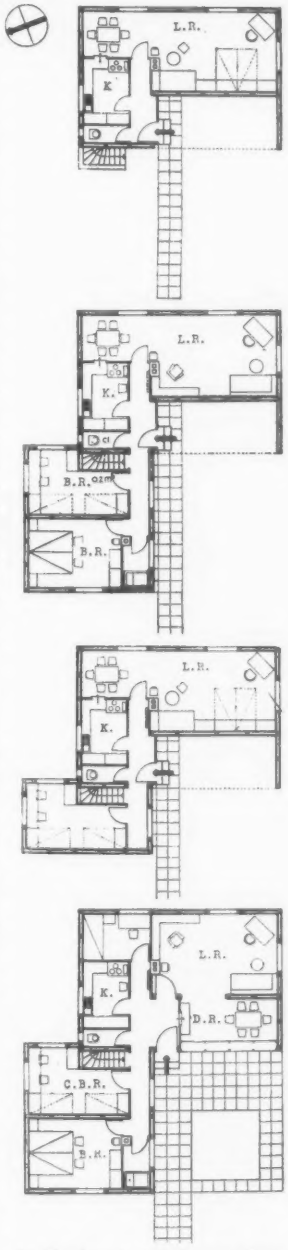
Key to plans :— K., Kitchen ; L.R., Living Room ; T., Terrace ; B.R., Bedroom ; B., Bath



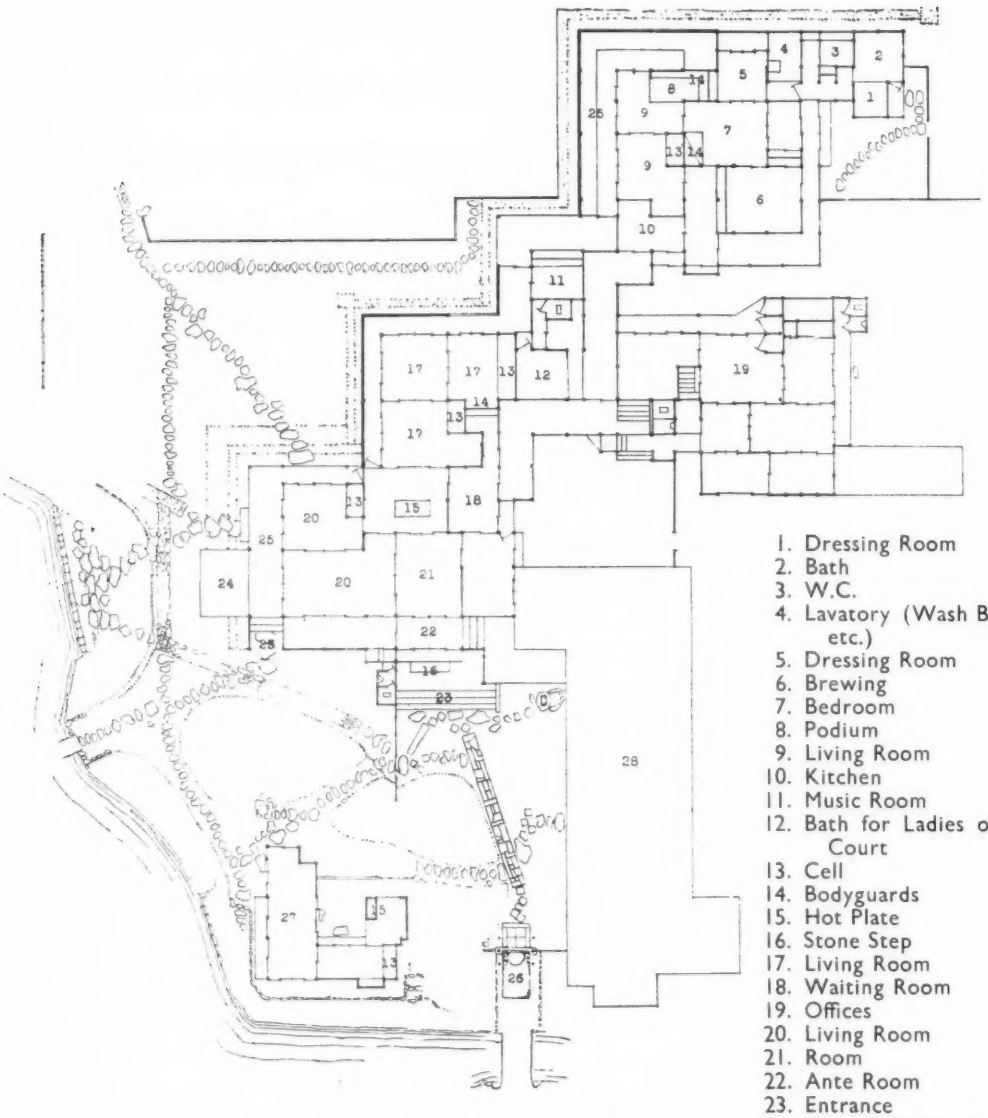
Key to plan :—K., Kitchen ; L.R., Living Room ; V., Veranda

Two Swedish sectional houses built up of pre-fabricated units

timber. (*b*) The pre-fabricated or sectional house. This is rather similar in idea to the standardised unit house, but it is more flexible and does not make the rash assumption that all men have identical requirements and would be content to live in the same type of house as each other. The infinite variety of the human animal must always, in the end, break down any complete system of standardised home. The pre-fabricated house is a much more serious proposition than the unit house and one which might revolutionise small house and estate development generally. It has been fully worked out in Sweden and is more or less accepted there as an orthodox method of house building. In this case it is not the house which is the saleable article but the unit sections of which it is composed. The difference is vital, for with this system almost any amount and any arrangement of accommodation can be built up from one or two varieties of pre-fabricated section. It is the sections, not the house, which are mass-produced in large quantities. This is obviously an economic arrangement and yet it has the advantage that different income groups can be catered for by one manufacturing process. Even the slightly " socialistic " nature of the experiment loses its sting because the individualist can build up quite original arrangements of rooms at no greater cost than is involved in the more conventional types of plan. Another difficulty which arises with a standardised house also disappears with this method, that is the adaptation of the plan to different conditions of aspect and prospect. In the illustrations here given six plans are shown, all different, but all built up from the same set of manufactured timber sections. Obviously the addition of another section would increase the possible variety of plans even further and the only limitation on the planning in which one can indulge seems to be the length of the section. Obviously the room must be a definite number of sections along ; if five foot sections are used then the room dimensions must be in multiples of five feet, but even this limitation is qualified by the fact that bed recesses, closets, etc., may be either added to or taken from the area of one of the principal rooms. The general merits of the system are obvious and all it needs is a proper liaison between manufacturer and erector, the latter being also responsible for foundations, chimney-stacks, etc. In this connection it should also be remembered that the flexibility of the plan allows of a very concentrated grouping of flues, plumbing, etc. This centralisation of such things is very marked in the plans shown. (*c*) The " Kernhaus " or extensible house (to the right) is a combination of the unit house and the pre-fabricated house. It is planned on a very human basis—the householder's gradual rise in the world and the probable concurrent increase in his family. A pleasant modern house with fair accommodation is planned, but only its nucleus is built. This is a minimum one-room house. As his salary rises the owner adds an extra room, and still further rooms as his



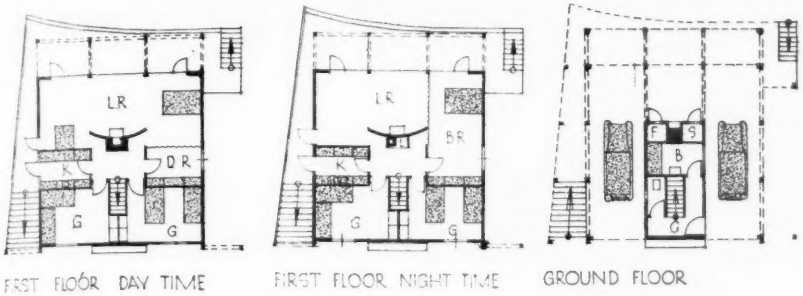
A 'Kernhaus' with its extensions Key to plan :—L.R., Living Room ; K., Kitchen ; B.R., Bedroom : C.B.R., Children's Bedroom : D.R., Dining Room



1. Dressing Room
2. Bath
3. W.C.
4. Lavatory (Wash Basins, etc.)
5. Dressing Room
6. Brewing
7. Bedroom
8. Podium
9. Living Room
10. Kitchen
11. Music Room
12. Bath for Ladies of the Court
13. Cell
14. Bodyguards
15. Hot Plate
16. Stone Step
17. Living Room
18. Waiting Room
19. Offices
20. Living Room
21. Room
22. Ante Room
23. Entrance
24. Open Bamboo Veranda
25. Veranda
26. Garden Gate
27. Pavilion
28. New Wings

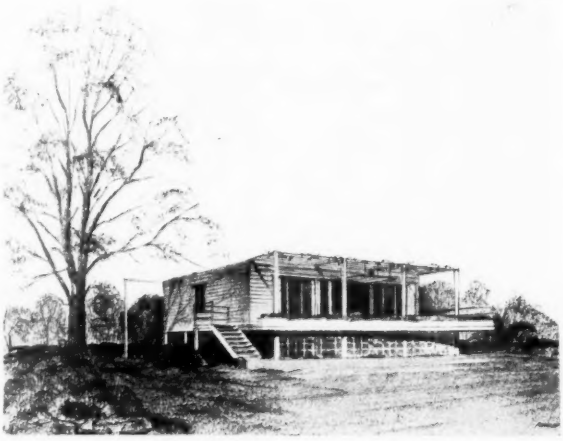
Plan of the Emperor's Katsura Palace at Kyoto, 1589-1643

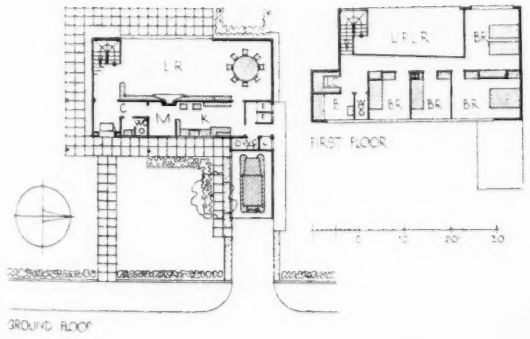
children begin to arrive. Finally, luxuries such as a sun porch and a garage and an ornamental garden are added. It is all rather amusing, but it has a realistic basis and suggests the working out of similar schemes. It is, after all, the logical conclusion of our present half-hearted way of planning "future additions." It is almost certainly the type of thing which must be worked out in sections or standard units so that when a wall is



A design by William Tatton Brown, B.A., A.A.Dip., awarded first place in Section 2 of the Timber Development Association Competition for Timber Houses

Key to plan :—L.R., Living Room ; K., Kitchen ; D.R., Dressing Room ; G., Guest ; B.R., Bedroom ; C., Cloaks ; B., Bathroom ; F., Fuel ; S., Store





A design by Reginald Kirby (Student) awarded first place in Section 1 of the Timber Development Association Competition for Timber Houses

Key to plan :— L.R., Living Room : U.P.L.R., Upper Part of Living Room : M., Maids : K., Kitchen : C., Cloaks : F., Fuel : L., Larder : B., Bathroom : B.R., Bedroom

removed for the addition of a room it can be re-used as an outer wall of the new room.

The above remarks are intended merely as suggestions as to the direction in which small house planning might go if the full possibilities of a material such as timber were fully appreciated. Fortunately there are signs that this appreciation exists and that timber houses can be designed in this country as well as abroad. This is borne out by the result of the recent timber house competition organised by the Timber Development Association. The two winning designs are reproduced here. One is a little sceptical about the houses being built for the money but as the planning seems to be very economical this difficulty may have been inherent in the conditions of the competition. The material has been exploited to the full and the planning gives very pleasantly-proportioned rooms. In the case of the larger house it seems a pity that the dining portion of the living-room could not have had another window and that the south elevation should be entirely wasted, but the general character of the plan is definitely " timber " and the massing and elevational treatment of both designs seems to be admirable.

THE ARCHITECT AND HOUSING BY THE SPECULATIVE BUILDER

ARTICLE IV

The Profession—Speculative Building and the Panel System*

By STANLEY C. RAMSEY, F.R.I.B.A.

THE PROFESSION IN MODERN TIMES

It is an easy and for the most part an unprofitable affair to attempt to re-write history, to say that this chapter was wrong, and that that chapter would have been better omitted. But we must all at times have longed, in the words of that old Persian poet :—

> Ah Love ! Could you and I with Fate conspire
> To grasp this Sorry Scheme of Things entire
> Would not we shatter it to bits—and then
> Re-mould it nearer to the Heart's Desire !

If we had had the power to re-write history—and if we had it would not then have been history—the period which I should like to have erased would have been that historic conflict known as the " battle of styles."

Whilst the industrial portion of our country was growing up anyhow, the architects who should have been the controlling factor in the re-shaping of that new world were spending their force and effectiveness in bitter controversy as to whether our buildings were to be decorated with Corinthian columns or Gothic cuspings. They left the practical problems to look after themselves and entered the realm of pure æsthetics, a world unreal to the majority of their fellow-countrymen, who listened with amusement or irritation to these affrays of words. The " battle of styles " for the time being finished off the architect, as the " Battles of the Roses " finished off the old nobility, and we have never recovered from the casualties of the conflict.

As a profession I suggest we ran away from our job, and the results of our dereliction are still with us. Two very clear results are discernible to-day—

1. A great part of the building world has been estranged by our remoteness.

2. Architects, as I shall attempt to show later, prefer even now on occasions to quarrel amongst themselves rather than face up to the common enemy. Which brings me to the question :—

" What is our concept of the architectural profession " —are we a small select body of poet-builders working for a few clients of sufficient wealth and culture to appreciate us, or is the whole realm of building our natural province and our particular concern ?

If we are a privileged caste working apart from the main streams of life then indeed the future for our profession is, I suggest, a very gloomy one, but if we accept the major proposition, then again, I suggest, the possibilities are enormous.

To pass from the general to the particular, I have frequently heard it stated that the mass of poorly designed villa residences that have spread all over the country since the War are no concern of the architect—we were there to be employed if the commissions had come our way, but as they did not, well, it was a pity, but how does it concern us ?

I should prefer to answer the question that I have put before you by reference to another great profession that had to pass through a somewhat similar period. What would have been the effect if the doctors in the early days of the 19th century, when owing to the rapid and ill-considered growth of our industrial towns the standard of the national health was probably at the lowest it had ever been, had similarly replied. Instead they took the broader view, that the national health was their concern, and by the initiation of the hospital system established themselves firmly in the structure of the community. And so with us architects, if we can bring ourselves to feel that every badly designed and ill-considered building is a standing reproach to us all, collectively and individually, we have gone a good way along the path towards a better architectural world, and incidentally to a more effective profession.

OUR DOMESTIC ARCHITECTURE

When I was a student it was an article of faith that our domestic architecture was the best in the world—this may, or may not, have been true. The only comment I have to make is that it was a pity that there was so little of it, and a still greater pity that there is so little to-day. An analysis of the census of production figures issued by the Ministry of Trade in 1930, the last figures available, shows that out of 72 millions spent in buildings of a domestic character during that year 49½ millions was spent through the agency of the speculative

* *Part of a paper read before the Liverpool Architectural Society.*

builder, and 22 millions by the local authorities, leaving 2½ millions for the builder who works for the building owner direct, the building agencies, such as our large stores, who put up and decorate houses, and for the estate agent and auctioneer, who acts as architect on occasion—this you will see leaves a very small sum as representative of the architect who builds houses for the private client.

THE LOCAL AUTHORITIES AND HOUSING

Immediately after the War the architects made a valuable contribution to the housing of the workers of this country, and achieved houses which judged from all standards were some of the best that any country produced.

Gradually, however, for various reasons which I do not propose to go into now, most of this work passed into the hands of the borough engineers, some of whom, it is true, have employed under them qualified architects as assistants.

This may be a transitional period before the fuller recognition of the value of the services of the architect, whether in official employment or in private practice.

I would at this juncture like to stress my personal opinion that there should, and could, not be any real grounds for conflict between the official architect and the private practitioner.

It is true that following the examples of the legal and medical professions we may find for our mutual protection that it is necessary to limit our interests and boundaries, just as obtains between solicitors and town clerks, and medical officers of health and doctors in private practice.

The enemy of us all is the unqualified designer—whoever he may be—who produces buildings that degrade the public taste.

The higher the standard demanded for our national health the better for the individual doctor—the higher the standard demanded for the nation's buildings the better for the architect.

This brings me to what is in my opinion the greatest problem of all—that of the speculative builder.

THE PROBLEM OF THE SPECULATIVE BUILDER

It is so easy to belabour the speculative builder, and to make him the target of the barbed arrows of our professional criticism, but unless we understand his particular problems all such criticism will avail us nothing.

To refer once more to the early days of the 19th century when so many of our troubles began. A rapidly urbanised rural population had to be housed under new and strange conditions in new and strange towns. Instinctively they demanded light and air in their new homes, and the speculative builder was the only agency that was prepared to satisfy this demand.

At that time the architects, in a desperate effort to recapture the lost beauties of a vanished world, were seeking by a series of revivals, commencing with the Gothic and passing rapidly through the Tudor, the Elizabethan, and the early and late Georgians, to attain definite standards of beauty. This may or may not have been an inevitable process—as given all the conditions I think it was—but it was *the* process. The result, however, was that our architecture was the architecture of escape rather than the architecture of life.

While the masses demanded large plate-glass windows, the architect pointed to the æsthetic charms of leaded lights and wooden casements. The speculative builder, who had to build the kind of houses his public would buy or else go out of business, instinctively re-acted to the requirements of his purchasers, and to the scorn of the architect gave "the public what they wanted." He was a faithful if humble servant of his public, and if he did not produce buildings of any great beauty, in fact, in most cases, very much the reverse, that was scarcely his fault. It was probably no one's fault, but was a necessary though unpleasant chapter in our building history, which, as I have said before, we should all like to re-write. As with his elevations so with his plans. The house plan of the speculative builder to-day is the result of a long tradition. It is the house of Victorian and Georgian times brought up to date.

First the attics went and then the basement. Next, under the influence of Sir Raymond Unwin, the back addition went, until we have to-day what is known as the "universal" plan: the two sitting-rooms, the self-contained kitchenette, the three bedrooms, W.C. and bath, often combined, sometimes separate, built all over the country in ever-increasing masses, in pairs, or in blocks of four or six.

The through sitting-room plan has never been popular with the speculative builder for his smaller houses, and for a reason that is not far to seek.

It is often stated that there is a rivalry between the local authorities and the speculative builder—that is, the house builder (to give him the title he prefers), who builds to sell—but any such rivalry is, I suggest, more political than real.

The house builder's problem really begins where the local authority's ends. Whereas the latter's duty under present conditions is to provide houses for the poorer paid worker, the house builder has to provide houses for the better paid artisan and the lower paid clerical workers, that is for the class immediately above the

poorer paid working classes. I don't say these conditions should be so, but I do say that they are so.

In this class-conscious country of ours this situation has produced some curious results.

As I have previously said, some of the best housing work for local authorities has been carried out by architects, and even where the architect does not operate his example is still followed, though it must be admitted sometimes rather blindly. The result is that what is called, for want of a better description, the lower middle-class would rather have a house of the villa type—complete with sham half-timber, bay window, red brick and rough-cast elevation—than the house which has been controlled by the severer taste of the architect because the villa marks him out as a member of a superior class.

But I am going to submit to you that the reasons are far deeper than this—the local authorities still speak of their "cottage estates." Many societies who have for their aim the laudable intention of the saving of the countryside have issued brochures comparing the beauties of the old-world cottages with the hideousness of the modern villas. But the inhabitant of your villa is not a cottager, in fact the last person he wishes to become is a cottager, and in a free country his wishes are entitled to respect. Now apart from questions, important as they are, such as the spoliation of the countryside, improved standards of housing and improved standards of construction, why is the design of these houses such a matter of concern to the architect?

We hear a good deal of the poor quality of the speculative builder's construction—that there are a certain number of builders who give poor value for money I will not attempt to deny, but they are only a small minority. I recently heard one of the higher officials of the Ministry of Health state that in his opinion not more than 10 per cent. of such houses were poorly built—too great a number it is admitted, but there are rascals in all trades, and it is unfair to saddle the great majority with the sins of a small minority.

Architects are particularly prone to seize on this aspect of the house builder's work, but I rather believe it is because they so dislike the look of these houses that they comfort themselves with the thought that they must be badly built—much on the same principle that because one dislikes the look of one's neighbour's face one concludes he must be a person of loose morals!

I have stressed this aspect of our problem because I feel it rather begs the real question, which in the main is one of poor design and poor grouping. Now, how can we as architects, having realised what the problem is, help to bring about a better state of affairs? My answer is mainly through "the panel system."

THE PANEL SYSTEM

That this is not an ideal solution I am well aware—nothing can be ideal in this work-a-day world—but that it is a very real and helpful contribution to such a solution no one who is acquainted with the work of the panels in the actual areas where they are working would attempt to deny.

The panel system—to return to my medical analogy—is one which can be compared with the hospital work of the doctors.

The full scope and organisation of the remodelled system is set out in the Panels Report, with which you are no doubt familiar, and which I do not propose to recite again now.

Briefly it provides a unified organisation, working under the auspices of the R.I.B.A., the C.P.R.E., and the Institute of Builders, for the improvement of house-building throughout the country. By its means small groups of architects are enabled to tender advice to the local authorities who have in some measure adopted the 1932 Town and Country Planning Act, and by means of section 12 of the Act have the power to control elevations and the siteing of buildings.

The Act provides the power for such control but does not state the nature of the machine by which such control shall be exercised.

It is obviously desirable that such control shall be with the help and guidance of architects, who are the only people trained in the design of buildings. It is rather with some of the difficulties encountered in the working of the panel system that I wish to deal to-night.

To begin with, it is an unpaid service—and that to my mind is its strength. It is a definite service offered to the community, and any such service might, I suggest, be more difficult to offer if it implied a payment for services rendered.

As I have attempted to show you, the main source of supply for the houses of the "directive" classes comes from the speculative, or as I prefer to call him, the house builder. Now if the house that a man lives in, which shelters his loved ones, and is the structure of his affections, is meanly conceived and badly designed, using the word "design" in its broadest sense, then is it to be expected that he shall have a different standard for his business and civic premises? In effect we know it is not. So meanly designed houses are complemented with meanly designed towns. Therefore I say, categorically and emphatically, we must start with the individual house.

In the earlier part of my paper I referred to the apparent love of conflict between architect and architect, and to some extent this has been exemplified—though I am happy to say only to a very small extent—in the working of some of our panels.

Clause 12 of the 1932 Act was designed with the whole-hearted approval of the greater part of the architectural profession to deal with the less happy efforts of the speculative builder, but, unfortunately, it

has been used by some architects to press for their own particular preference in the matter of style.

Now I submit to you that this is a fatal policy which the Council of the R.I.B.A. has endeavoured to frustrate by issuing a Code of Procedure for Panel Workers, which states that panel workers shall not make the question of style a question of competency.

Anything else is a tyranny and no less a tyranny because it is sometimes used by the older members of the profession in an effort to prevent the younger ones expressing themselves in what is called "the modern manner." I have been told that in some districts the allied societies feel it is unwise to set up these panels because of the difficulty one architect might find in criticising the work of a brother architect.

But surely, bearing in mind the real purpose of Clause 12 of the 1932 Act, no such difficulty exists. The purpose in setting up the panels is not, I submit, to afford architects facilities for criticising architects of other schools of thought, but to deal with an admitted and easily recognisable evil.

To give an illustration of how control works from another angle. A friend of mine, who is one of the advisory members of a tribunal of appeal set up by the Act, told me that they had had something like a hundred plans submitted to them for adjudication, and *all these* plans were the plans of architects of all schools of design. At first sight this would appear to be a situation out of "Alice in Wonderland," but perhaps the reason is not far to seek.

Probably most of the members of that particular local authority, including possibly the executive officers, live in houses erected by speculative builders, and any design which does not conform to the usual characteristics of such houses would appear strange and undesirable—in fact, obviously the houses which the Act was designed to prevent !

Another fact which must be remembered is that if the Act is not administered with the help of qualified designers, i.e., architects, it will be administered [*sic*] without them, and an even more Gilbertian situation will arise. There was the case of one of our leading architects, whose name would, I am sure, be familiar to everyone in this room, who was told by a sanitary surveyor (the executive officer for the Act in his district) that his (the architect's) cornice projected too much, or did not project enough, I forget which—but in either case the result was equally absurd. The main problem is, of course, for all panel workers to understand the real nature of the house builder's problem and the public for whom he has to provide.

In the future I believe there will be as keen a competition to serve on these panels as there is at present amongst the doctors to serve the hospitals and with as much beneficial result to the community.

Only, for Heaven's sake, don't let us quarrel amongst ourselves. Let us forget our old bad inherited traditions and work together for the common good. It is only healthy that there should be differences of opinion amongst us, but cannot we confine our differences to the discussions which should take place in private, rather than rush with our grievances and our theories to the general public, who, for the most part, like Pontius Pilate, care for none of these things.

I am not suggesting the surrender of artistic principles but rather that we should, in doing a great work in common, seek a broader platform of agreement and work together in a spirit of wise toleration.

I am afraid that I have taken up a lot of your time in reciting some well-worn platitudes, and have been unwarrantably didactic in some of my assumptions, but I do feel that there is a great and necessary work awaiting our immediate attention, a work, moreover, which is essential to the well-being of our profession.

If we are only partially successful in our efforts we shall have done a great deal towards saving the countryside and regenerating the towns, but beyond this we shall have prepared the way for a period of great architectural achievement.

THIRD INTERNATIONAL REUNION OF ARCHITECTS, CENTRAL EUROPE

An enthusiastic party of architects and friends left London on 4 September for a journey which covered nearly 3,000 miles through Central Europe. Brussels was reached in the evening, and after dinner the International Exhibition was visited. The following day was spent in the Exhibition and the party left by the night train via Cologne, Wiesbaden, Frankfurt, Wurzburg, Nuremberg, Pilsen, arriving at Prague the following evening.

Prague was the rendezvous of delegates from various parts of the world, including most European countries, and they occupied a greater part of three of the largest hotels in the city. The following morning the opening meeting took place in the Town Hall, at which M. Auguste Perret was elected President. A warm welcome to the delegates was given by M. Adolf Bens, on behalf of the Czechoslovakian architects, and the day's programme included a visit to the Exhibition of Contemporary Czechoslovakian Architecture in the Museum of Applied Arts. At 5 p.m. the delegates were received by the mayor, and in the evening went to the opera at the National Theatre, and later were entertained at the Artists' Club. Tours round the city in coaches occupied a great deal of time on Sunday and Monday, and the stay in Prague was concluded by the delegates entertaining the Czechoslovakian architects to luncheon, and a farewell dinner was held at the Electricity Company's headquarters.

On 10 September, Hradec-Králové was visited in the morning and later the delegates arrived at Zlin to inspect the famous Bata shoe industry, and Brno was reached in the evening. This town was viewed the following day, and the sojourn in Bratislava was far too short. A farewell soirée to Czechoslovakia was given and all had feelings of regret at leaving behind such generous hosts, with the knowledge that they were so far from our homes, but we hoped it would be our good fortune to meet them again to have the opportunity of returning their hospitality.

After leaving Bratislava the party of about a hundred and eighty journeyed to the frontier town of Szob and boarded a Danube steamer for Budapest, the capital of Hungary. A magnificent sunset, in a perfect setting of river and mountain, was truly beautiful; later the mountains were silhouetted against a full moon. At various piers along the river the delegates were greeted by Hungarian architectural colleagues, and the Mayor of Budapest joined the dinner party on the steamer. The arrival at the capital at night by boat was dazzling. The town revealed itself in the lights which the river multiplied delightfully. Bridges, one after another, were silhouetted clearly from the shadows. To left and right on the hilly banks, the official buildings, the Royal Palace, Parliament, etc., emerged in the splendour of their floodlighting.

On 14 September the delegates were welcomed and an exhibition was staged at the Royal Hungarian Polytechnic. The party visited the baths at St. Gellert and took lunch on the terrace. Later a banquet on St. Margaret's Island was given by the Office of Public Works. The buildings visited at Budapest included the museums of Arts, of Agriculture, of Ethnology, of Arts and Handicrafts, industrial buildings, houses, schools, etc., etc.

On Sunday, the delegates were invited to an official reception and tea by the Royal Hungarian Government in the banqueting hall of the Ministry of the Interior. Nearly two thousand guests were entertained.

The conference journeyed next to Vienna, and for the first time were greeted by rain. However, this had cleared by the morning before the official reception by the Mayor of Rathaus. Unfortunately, time only allowed two days in which to hurry round this beautiful city, but the programme included visits to the Karl Marx flats and the famous Schönbrunn Palace.

The long journey from Vienna to Stuttgart was undertaken at night, allowing two days to explore that town, conducted by German architects. During the latter part of the journey a number of delegates had already taken their leave, and the last few days for the British delegates were spent enjoying the generous hospitality of their French colleagues in Paris.

London was reached on 22 September, and although everybody was fatigued, they considered that the effort was well worth while, and especially were they impressed at the kindness shown in every country through which they had passed. Many new friendships had been created, and the thanks of all are due to the hosts in each country, and also to Monsieur Pierre Vago, who was largely responsible for the main organisation.

W. DAVID HARTLEY [*F.*]

A full report of the proceedings of the tour, including an article by Mr. R. Burns Dick [*F*], *appears in the December number of "Architecture d'aujourd'hui."*

Gymnasium at Hradec-Králové, Czechoslovakia, by Josef Golar (**Hon. Corr. member**). From a photo by W. David Hartley [*F.*]

REVIEW OF CONSTRUCTION AND MATERIALS

This series is compiled from all sources contributing technical information of use to architects. These sources are principally the many research bodies, both official and industrial, individual experts and the R.I.B.A. Science Standing Committee. Every effort is made to ensure that the information given shall be as accurate and authoritative as possible.

Questions are invited from readers on matters covered by this section; they should be addressed to the Technical Editor.

The following are addresses and telephone numbers which are likely to be of use to those members seeking technical information. There are many other bodies dealing with specialised branches of research whose addresses can be obtained from the Technical Editor. We would remind readers that these bodies exist for the service of Architects and the Building Industry and are always pleased to answer enquiries.

The Director, The Building Research Station, Garston, Nr. Watford, Herts. Telegrams: "Research Phone Watford." Office hours, 9.30 to 5.30. Saturdays 9 to 12.30.

The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks. Telephone: Princes Risborough 101. Telegrams: "Timberlab Princes Risborough." Office hours, 9.15 to 5.30. Saturdays 9.15 to 12.

The Director, The British Standards Institution, 28 Victoria Street, London, S.W.1. Telephone: Victoria 3127 and 3128. Telegrams: "Standards Sowest London." Office hours, 9.30 to 5. Saturdays 9.30 to 12.30.

The Technical Manager, The Building Centre Ltd., 158 New Bond Street, London, W.1. Telephone: Regent 2701, 2705. Office hours, 10 to 6. Saturdays 10 to 1.

TIMBER

FOREST PRODUCTS RESEARCH RECORDS

Some time ago we referred in these columns to a new series of publications by the Forest Products Research Laboratory. The outstanding feature of these *Forest Products Research Records* is that they are intended specially for the timber user; they are therefore written with as great an avoidance as possible of scientific jargon, and they omit the usual descriptions of methods of research and concentrate on the results obtained. So far five have been published, of which four are very much concerned with architectural practice. These are: *No. 1, The Testing of Timbers at the Forest Products Research Laboratory; No. 2, Strength Tests of Structural Timbers, Part I; No. 4, Timber Seasoning; No. 5, The Moisture Content of Timber in New Buildings.* The remaining Record is *No. 3, Experiments on the Preservation of Mine Timber*, which, though it cannot be described as architectural, contains information about the use of timber under very wet conditions, which may be of occasional use to architects. The price of each Record is sixpence, and they are published by H.M. Stationery Office. They should be a useful addition to the reference shelves of an architect's office; they will serve to keep him and his staff abreast of the latest technical knowledge on the use of timber. It would, perhaps, be advisable to order all future numbers in advance, as they will be published at irregular intervals. They will, however, be reviewed in these columns as they appear. Below we review briefly the four Records concerned with building that have so far been published.

TIMBER TESTING

The Testing of Timbers at the Forest Products Research Laboratory is an outline of the organisation and scope of the F.P.R.L. From it the architect will be able to learn how the work of the laboratory affects his practice generally, and—what is perhaps more immediately useful—how it can help him on his actual problems. The laboratory is organised in sections, as follows. Wood Structure, as its name implies, involves microscopic examination and comparison of woods, related to its characteristics such as strength, seasoning properties and working qualities, etc. Timber Physics covers the retention of water by, and the diffusion of heat through, timber, both connected with seasoning, and also penetration by gas, which is of importance as a possible means of killing injurious insects. Seasoning—a large and important section—aims mainly at obtaining economy in drying and at the determination of the most suitable timber and its proper degree of seasoning for any particular use. Timber Mechanics represents an elaborate series of tests to discover the strengths of all kinds of timber. Under the word "strength" are included resistance to bending (as for joists), resistance to impact (as for hammer shafts, hockey sticks, etc.), resistance to compression (as for structural posts and struts), the determination of relative hardness (as for flooring), the resistance to shear (as for structural members generally), and cleavage properties (for the holding of nails or screws). The Wood-working section is mainly for the joinery maker, as it determines such things as the suiting of cutting angles of machine tools to different species of timber. Wood Preservation explains itself. Entomology is concerned with the menace of wood-boring beetles, a section which seems to be growing in importance. Mycology covers wood-destroying fungi, of which the most important is, of course, dry rot. The Wood Chemistry section investigates the composition of wood, and is attempting (and has practically succeeded) in discovering and isolating the food material of wood-boring insects. Finally, there is the Utilisation section, which deals partly with advisory work, partly with relating supply to demand in the sense of getting timbers employed suitably, but mainly its work can be described as the co-ordination of research with commerce. All these rapidly sketched sections make up a complete organisation with laboratories, workshops, sawmills and kilns, and the brevity of this paragraph does scant justice to the scale and importance of the work. As we say in every number of the JOURNAL at the head of this section, the Forest Products Research Laboratory exists "for the service of Architects and the Building Industry."

TIMBER STRENGTHS

Strength Tests of Structural Timbers, Part I, represents the first results of the almost Herculean labour of obtaining really reliable figures of timber strengths for use in structural design. "The aim . . . is to provide the designer with the same type of information that he already possesses in the case of steel, concrete and other materials of construction." This

Record gives some general remarks, including a statement that figures of timber strengths given in English text books are not only very inaccurate but do not even agree with one another. Some tests on Archangel and Gefle redwood, in sizes from 4 by 2 to 9 by 3, are given. One point, not generally realised, is stressed; the strength of timber varies considerably with its moisture content.

TIMBER SEASONING

Timber Seasoning, the fourth Record, is intended less for the architect than for the timber merchant, joinery maker or builder, as it is mainly concerned with stacking, air-drying and kiln-drying. At the beginning there is a simple explanation of what the term "moisture content" means and how it is measured. For the benefit of the uncertain, "moisture content" is the actual weight of moisture in the piece of wood expressed as a percentage of the weight of the dry wood. A simple test is illustrated: cut a piece about ½ inch long out of the plank to be tested at a distance of about 9 inches from the end; weigh it on a balance of the student's type; dry the piece in an oven kept at a temperature slightly above the boiling point of water until it ceases to lose weight; reweigh the piece; calculate as follows: initial weight minus final weight divided by final weight, the result multiplied by 100 gives the percentage moisture content.

Determination of the moisture content of timber immediately it is cut from the log (even though the log has been lying under cover for years) will reveal values ranging from 30 per cent. in the case of the heartwood of some softwoods up to 200 per cent. or more. For most building purposes this figure has to be reduced to from 9 to 25 per cent. What these figures should be for different classes of work is illustrated in a chart, reproduced from the Annual Report of the F.P.R.L., and which was fully described in these columns in the JOURNAL of 9 November last. The outstanding fact revealed by this chart is the influence of central heating. Whereas in buildings not centrally heated, woodwork can have a moisture content ranging from 12 to 15 per cent.; in hose that are so heated it should vary between 8 and 11 per cent. Shrinkage and movement of joinery in a building is the direct result of fixing it with too high a moisture content for the position it is to occupy, so that it loses moisture, and consequently shrinks, after it is fixed. Alternatively, it may suffer because, although dry enough for its final position, it is fixed when the building is too wet so that it takes up moisture and swells. The foregoing remarks will appear very elementary to some readers, but it is true to say that these simple facts are not properly realised by many persons responsible for building operations.

After detailing the ways in which timber shrinks on drying the Record goes on to discuss methods of seasoning. Diagrams are given of how timber should be stacked for air-drying. It is pointed out that air-drying will never give sufficient reduction of moisture content in timber for use in artificially heated buildings. Under the most favourable conditions the moisture content might conceivably be reduced to about 12 per cent., but 18 per cent. would be more usual. Kiln seasoning is therefore always necessary nowadays and the laboratory suggests that the best results will usually be obtained by a combination of both methods.

All this is very largely contrary to the facts given in text-books. One of the most popular of these (revised in 1929) and a standard text-book in schools of architecture, states that air-drying is "the best method" and that kiln-drying (or "desiccating") gives poorer results; whereas with joinery in a modern building exactly the reverse is the case. It is therefore not surprising that the F.P.R.L. says that "the methods practised by many are based on tradition and sometimes almost superstition."

The Record ends with a description of modern methods of kiln seasoning and of the drying rates and times for different classes of timber. To those brought up on the old and largely incorrect beliefs the figures are somewhat surprising, as the following table will show:—

2-inch thick softwoods,	green to kiln-dry	1-2 weeks.
ditto	air-dry to kiln-dry ..	1 week or less.
2-inch thick hardwoods,	green to kiln-dry ..	3-12 weeks.
ditto	air-dry to kiln-dry ..	1-4 weeks.

The air-dried timber is taken at 20 per cent. moisture content and the kiln-dried at 10-12 per cent. The above figures apply to forced-draught kilns; for natural draught kilns add about 50 per cent. to the times. It should be observed that preliminary air-seasoning to about 20 per cent. moisture content reduces the kiln-drying period to one-third of that required to kiln-dry from the green state.

TIMBER IN BUILDINGS

The Moisture Content of Timber in New Buildings is an account of attempts to find out what exactly does happen in the drying-out of buildings and the resulting influence on joinery. The Record first draws the distinction between shrinkage due to seasoning and the alternate swelling and shrinkage due to changes in moisture content, what is known as "working." This latter movement is inevitably always found in woodwork; even in air-conditioned rooms where humidity is controlled, the moisture content of timber will vary plus to minus one per cent. round the average figure. This is, however, allowed for by the traditional methods of designing joinery. It is worth noting, however, that the movement in plywood and similar laminated boards is only about one-tenth of that in solid materials.

The Record describes a series of investigations carried out in the following buildings after their completion: Thames House, London; National Provincial Bank, Princes Street, London; Broadcasting House, London; Post Office, Princes Risborough. The following buildings were investigated both during and after completion: St. Mary's Hospital, Paddington; Royal Masonic Hospital, Ravenscourt Park; dwelling-house, Princes Risborough; laboratory extension, Princes Risborough.

In the first set of buildings the variations in moisture content over some two years were measured. The buildings were new but dried out—that is to say, moisture conditions had reached stability. The conclusions are that for occupied centrally heated buildings the mean moisture content in woodwork can be taken as 12 per cent., the maximum variation being 2½ per cent. either way (Thames House) and the minimum 1 per cent. (Broadcasting House).

With new buildings the point of the whole problem is to instal joinery at the first possible moment after the building has dried sufficiently to prevent the joinery from taking up additional moisture. In order to get the best results it will be clear that the timber should be made up into joinery only when it has dried to the final moisture content it will have when fixed (12 per cent.), and that the structure of the building must have dried out to about the same degree.

It was found in the two hospitals in London and the two

buildings at Princes Risborough that the moisture content at the end of the general construction (plastering finished and windows fixed) varied from 18 to 15 per cent. In the case of St. Mary's Hospital the time taken to reduce the moisture content to 12 per cent. was 6 months (third and fourth floors) and 3 months (first floor). The Royal Masonic Hospital took 5 months (all floors). The house at Princes Risborough took 4 months (no central heating) and the laboratory extension only 3 weeks. The last is exceptional ; the building was very small and there was a constant interchange of air with the adjoining dry structure. The relatively long time taken to dry out the larger buildings indicates the value of using temporary heating for this purpose.

On the other hand, excessive drying or "baking" by forcing the heating installation to its maximum is strongly deprecated, "for, apart from the unnecessary expense it entails, even the most carefully seasoned and fitted joinery work is bound to shrink and possibly to distort." There is nothing to be gained by drying the building below 12 per cent. when that is the figure at which it will ultimately "live."

The Record suggests and describes a method by which moisture content can be measured by placing samples of wood in a building when under construction. If these are tested by the method outlined earlier in this review, the time when the building is dry enough is easily discovered. This suggestion is a valuable one. It reduces very considerably the existing risks inherent in rapid building. It would appear to come most suitably under the duties of the clerk of works ; the drying and weighing of wood samples should be no more troublesome than is, for example, cement testing. At best it may avoid the expensive replacement of joinery as well as trouble and delay.

RESEARCH IN GENERAL

Since we normally deal fully with the reports and work of those departments of the Department of Scientific and Industrial Research that influence building there is little purpose in reviewing at any great length the annual report* of the Department itself. Nevertheless this report contains information on certain matters such as illumination, rubber, fuel and water pollution research which may interest the architect and are outside the scope of the Building Research Station.

Noise.—The National Physical Laboratory records the greatly increased interest in prevention of, and insulation against, noise. The Laboratory has produced a sound meter which has found many fields of application during the year.

The Geological Survey.—During the period under review the staff of the Geological Museum have been occupied with the transfer of the collection from Jermyn Street to the new building in Kensington. The exhibits have been reorganised and many new ones added. It is noted that the attendance at the new museum has averaged over 1,000 a day. Geologically minded architects will be interested to learn that a new series of publications has been started. These are short summaries of the geology of Britain according to areas. So far the following summaries have been published : Bristol and Gloucester District, Grampian Highlands, South of Scotland, Northern England, Wealden District, London and Thames Valley, Tertiary Volcanic Districts, Welsh Borderland, North Wales.

Water Pollution Research.—New materials for base-exchange water softeners have been developed. Most of the existing ones are from other than Empire sources and it has been found that British clays can be treated to provide suitable materials and also that some synthetic resins have exchange properties.

The problem of dealing with the effluent from milk factories has been seriously taken in hand by the Water Pollution Research Board. We recollect having had several enquiries from architects on this problem during the past year ; we have in all cases referred them to the Board. They appear to have evolved something in the way of a suitable treatment, and with the financial help of the Milk Marketing Board have laid down two full-scale experimental plants at Ellesmere, Shropshire.

Radio Research.—The Electrical Research Association have made a special study of the interference caused to broadcast listening by the normal operation of electrical apparatus such as vacuum cleaners and lifts and devices have been developed for reducing this interference and for making radio receivers less susceptible to it.

Illumination Research.—Further work has been done on the preparation of standards of adequate daylight illumination in rooms. Experiments are in progress to determine the extent to which prismatic glasses and outside mirrors improve daylight in basement and similar badly lit rooms. The influence of illumination and colour on industrial processes is an interesting investigation which is being undertaken. A report has now been issued as a joint publication of the Illumination Research Department and the Medical Research Council.

Atmospheric Pollution.—A special investigation on a much larger scale than any hitherto undertaken is contemplated by the Atmospheric Pollution Research Committee in a specially selected industrial area. The object is to discover how pollution is distributed, its variation and the influence of one area on another.

Non-Ferrous Metals.—We note that extensive investigation is being made into the corrosion of copper water service pipes and that surveys of existing information both for copper and lead corrosion have been drawn up. Research on galvanizing and zinc coatings promises useful results.

Cables in Buildings.—The increasing use of steel frames and reinforcement for concrete has created a new problem connected with the current carrying capacities of electric cables. A comprehensive study of this subject is being made.

Paint.—Work has been done on the painting of galvanized iron and on creosoted wood ; papers have been published on these subjects. Investigation of the flow properties of paint has led to the construction of an instrument to measure consistencies of the material. A fundamental study of cellulose products has been begun.

THE USE OF TIMBER

We are informed that the Timber Development Association have appointed Mr. John Gloag as Public Affairs Director to the Association. Mr. Gloag will be responsible for the organisation of exhibitions connected with timber. He is well known to architects and is at present serving in an honorary capacity on the R.I.B.A. Exhibition Committee. Mr. E. H. B. Boulton, M.C., M.A., has been appointed Technical Director and will be responsible for the supply of information to architects.

* Department of Scientific and Industrial Research. Report for the year 1934-35. H.M. Stationery Office, 3s. 0d.

The Law of Building*

Continuation of the Ministry of Health Memorandum on the Approval of Plans, the first part of which appeared in the last number of the Journal

ACTS OF PARLIAMENT

8. In addition to compliance with the bye-laws (and local Acts if any) there are certain general Acts of Parliament to which a new building must conform. These cannot be set out here in full, but the most important in practice are the following.

DRAINAGE

9. (*a*) URBAN DISTRICTS. In every urban district it is compulsory under Section 25 of the Public Health Act, 1875, to provide every new house with means of drainage communicating with a sewer, or (if there is no sewer within one hundred feet) emptying into such covered cesspool or other place as the Local Authority direct. The drains under this section have to be laid with such a fall as the Local Authority approve and they must comply with any bye-laws in force with respect to the drainage of new buildings. The bye-laws do not require sewage drains ; they merely regulate such drains as are provided.

It has been held by the Courts that the Local Authority are empowered under this section to prohibit the method known as combined drainage of two or more houses. Combined drainage is never forbidden by bye-laws.

A person who lays his drains otherwise than in accordance with this section may be required to do the work again as well as to pay a penalty.

There is no right of appeal to the Minister against requirements authorised by Section 25 of the Act of 1875.

(*b*) RURAL DISTRICTS. Section 25 of the Act of 1875 is in force in some rural districts only. Where it is, the position as regards drainage is that set out above for urban districts.

Where the section is not in force in a rural district, a person erecting a building is free to make his own arrangements for the disposal of sewage (i.e., he is not obliged to construct any drains or, if he does, to connect them to a cesspool or similar place), provided that in doing so he does not commit a breach of the law (e.g., as to the pollution of streams or the creation of nuisances), but, if any drains or cesspools are in fact constructed, any bye-laws which may be in force as to the drainage of buildings and the construction of cesspools must be satisfied.

It should be noted that Section 23 of the Public Health Act, 1875 (which is in force in all districts) provides that where an *existing* house is without a drain sufficient for effectual drainage, the Local Authority shall require the house to be provided with means of drainage communicating with a sewer, or (if there is no sewer within one hundred feet) emptying into such covered cesspool or other place as they direct : this section, since it applies to existing houses only, does not empower the Local Authority to disapprove the plans of a *new* house.

(*c*) ALL DISTRICTS. Many Local Authorities have provided separate sewers for sewage and for surface water, and where this is done bye-laws can be made prohibiting, in certain circumstances, the person who constructs the drains of a new building from causing the surface water to discharge into the sewer for sewage only, and *vice versa*. But apart from such bye-laws (or a local Act, see paragraph 4 above) separate drains for sewage and for surface water are not obligatory.

Section 21 of the Public Health Act, 1875, gives a person a statutory right of communication between the drains of his premises and the sewers of the Local Authority. If he desires to exercise this right, he must notify the Local Authority of his intention and (unless the Local Authority themselves make the communication, as they are empowered by Section 38 of the Public Health Act, 1925, to do, where that section is in force) comply with any regulations made by them with respect to the *mode in which the communication between the drains and sewers is to be made*. It has come to the Minister's notice that some Local Authorities have regulations which purport to be made under Section 21, but deal with matters other than the actual communication between the sewer and drain. So far as those regulations refer to these other matters, they have no legal effect and a person is not obliged to comply with them.

BUILDING LINES

10. Building lines are not fixed by bye-laws but (normally) by the Public Health (Buildings in Streets) Act, 1888, or under the Roads Improvement Act, 1925. The Act of 1888 forbids the erection or bringing forward without the consent of the Local Authority of any house or building or part of a house or building in a street beyond the front main wall of the building on either side in the same street. *It is important* to note that (*a*) the word " building " in the Act of 1888 has been held by the Courts to have a wider meaning than it ordinarily has ; (*b*) the Act does not apply at all unless the proposed new building is in a street ; (*c*) there must be " some degree of proximity " between the existing building or buildings and the new building ; (*d*) the line is fixed by the existing building or buildings and the *Local Authority cannot prescribe* it for themselves. Under the Act of 1888 a person from whom consent is withheld has a right of appeal to Quarter Sessions, but a person who is aggrieved by the Local Authority's consenting to the erection or bringing forward of a building has no right of appeal. *There is no right of appeal to the Minister of Health.* This Act is in force in every urban district but not usually in a rural district.

The Act of 1925, however, enables any County Council or other highway authority to prescribe a building line in any highway maintainable by them. There are various limits on this power which cannot be set out in this memorandum, but when a line is prescribed or proposed under this Act it must be shown on a plan kept by the clerk to the authority concerned and open at all reasonable times to inspection by the public without charge. Where a building line prescribed under this Act is in force, it is unlawful to build in front of it without consent (which may be subject to conditions) of the authority who prescribed it, and, under this Act, if their consent is refused there is no right of appeal. A person whose property is injured by the prescribing of the line may, however, claim compensation.

*C.34. R.P.W. 63055—1—250 H E (1 September 1935). Published by permission of the Comptroller of H.M. Stationery Office.

Also, building lines may be fixed by a Local Authority in a planning scheme—see paragraph 15 below.

In addition to building lines fixed as above (*which have nothing to do with bye-laws*) it may be that a street has been laid out in accordance with a bye-law permitting less than the standard width on condition that the buildings are set back. If so, this condition is, by virtue of Section 100 (2) of the Housing Act, 1925, binding not merely upon the person who laid out the street but upon any person building beside the street.

IMPROVEMENT LINES

11. Sections 33 and 34 of the Public Health Act, 1925, enable a Local Authority as respects any street repairable by them, and the County Council, as respects any main road maintained by the County Council, to prescribe an improvement line (i.e., the line to which the street or main road is sooner or later to be widened) where in their opinion the street or main road is narrow or inconvenient, or without any sufficiently regular boundary line, or where it is necessary or desirable that it should be widened. The improvement line may be prescribed in relation to either side of the street or main road, or at or within a distance of fifteen yards from any street corner. A person aggrieved by the *prescribing* of the improvement line has a right of appeal to Quarter Sessions, and a person whose property is injured by its prescription may claim compensation.

After the improvement line has been prescribed, no new building, erection, or excavation can lawfully be placed or made nearer to the centre line of the street or main road than the improvement line, except with consent, which may be given for such period and subject to such terms and conditions as the Local Authority or County Council deem expedient. If consent is withheld, there is a further right of appeal to Quarter Sessions by the person from whom it is withheld, but a person who is aggrieved by the giving of consent has no right of appeal.

There is no right of appeal under these sections to the Minister of Health, and for further information as to improvement lines those interested should refer to Sections 33 and 34 of the Act itself.

Some Local Authorities have provisions in local Acts—see paragraph 4 above—similar to Section 33 of the Act.

RESTRICTION OF RIBBON DEVELOPMENT

12. Under the Restriction of Ribbon Development Act, 1935 :—

(i) where the highway authority have adopted a standard width in accordance with the Act for any highway repairable by them or any other road as defined in the Act and approval of the adoption by the Minister of Transport has been given and advertised, it is unlawful without the consent of the highway authority to form any means of access to or from the road or to erect any building or make any permanent excavation or execute other works nearer to the middle of the road than a distance equal to one-half of the standard width adopted :

(ii) it is unlawful without the consent of the highway authority to form any means of access to or from, or to build (otherwise than for agricultural purposes) within two hundred and twenty feet from the middle of, any road which on the seventeenth day of May, 1935, was a classified road as defined in the Act. Any other highway repairable by the highway authority or other road as defined in the Act may, with the approval of the Minister of Transport, be made subject to these restrictions after public notice has been given.

The highway authority's consent may, with certain exceptions, be subject to conditions and an applicant who is aggrieved by the withholding of consent or by any condition imposed may appeal to the Minister of Transport. Consent is deemed to have been given unconditionally if the highway authority have not within two months after an application for consent given written notification of their decision.

A person whose property is injured by these restrictions may claim compensation, but a person who executes any work in contravention of them is liable to a heavy fine ; also the highway authority may remove the work at the cost of the person committing the offence, after giving notice to the person entitled to possession of the land, who, however, may, within twenty-eight days after receipt of the notice, appeal against their decision to Petty Sessions, against whose Order either party may appeal to Quarter Sessions.

Persons who are affected by the Act, or who otherwise wish to ascertain the precise position in particular circumstances, are advised to refer to the Act itself. A memorandum, RRD.1, explaining in rather more detail than is possible here the effect of these provisions of the Act upon owners and occupiers of land and containing specimen forms of application for consent, has, however, been issued by the Minister of Transport ; copies, price 1d. each, may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, directly or through any bookseller.

PREVENTION OF INTERFERENCE WITH TRAFFIC

13. Section 17 of the Restriction of Ribbon Development Act, 1935, provides that where plans are deposited for a building which exceeds two hundred and fifty thousand cubic feet in capacity measured in accordance with directions to be given by the Minister of Health, or which is a place of public resort, refreshment house, station for public service vehicles, petrol-filling station, or garage in connection with any trade or business, and the Local Authority are not satisfied that

(*a*) the character of the building is such as not to be likely to cause increased vehicular traffic along any adjacent road, or

(*b*) satisfactory arrangements have been or will be made for limiting interference with the traffic along adjacent roads,

they may as a condition of their approval of the plans require the provision and maintenance of such means of entrance and egress, and of such accommodation for the loading or unloading of vehicles, or picking up and setting down of passengers, or the fuelling of vehicles, as they may specify for the purpose of limiting interference with traffic.

Any condition so imposed remains in force unless it is withdrawn by, or removed by agreement with, the Local Authority, and is binding on every occupier for the time being of the building.

A person aggrieved by the decision of the Local Authority on either (*a*) or (*b*) above, or by any imposition under this section, may within twenty-eight days appeal to Petty Sessions, against whose Order either party may appeal to Quarter Sessions.

A person who contravenes this section is liable to a heavy fine and the Court may prohibit the occupation and use of the building until the conditions are satisfied.

WATER SUPPLY

14. Another important statute is the Public Health (Water) Act, 1878. *This Act does not authorise a Local Authority to disapprove the plans* of a dwelling-house, but Section 6, which is in force in every *rural* district, makes it an offence *to let or occupy* a new dwelling-house without a certificate from the Local Authority that there is provided, within a reasonable distance of the house, a sufficient available supply of wholesome water. The burden of satisfying the Local Authority is placed upon the person who proposes to let or occupy the house, but if he considers that the certificate has been unreasonably withheld he has a right to apply to Petty Sessions for an Order authorising the occupation of the house notwithstanding the refusal of the certificate. The Minister has no jurisdiction under the section.

Section 6 of the Act of 1878 is not normally in force in an *urban* district. Where it is, the position is that stated above. Where it is not, the certificate of the Local Authority that there is an adequate water supply is not, in the absence of a special local Act, required before the house is let or occupied.

Under Section 62 of the Public Health Act, 1875, which is in force in every *urban and rural district*, the Local Authority can require any *existing* house within their district which is without a proper supply of water to be provided with such a supply if the cost of furnishing it does not exceed that mentioned in the section. As this section applies only to existing houses, the Local Authority have no power under it to disapprove the plans of a *new* house.

PLANNING SCHEMES

15. Where a planning scheme is in course of preparation for any part of a district, the position as regards any development† proposed to be carried out before it comes into operation should be ascertained. The fact that a scheme is in course of preparation does not preclude the carrying out of works in accordance with the bye-laws and statutory provisions in force in the district, but any building (including structures and erections) erected or other development undertaken after the date on which the resolution of the Local Authority deciding to prepare the scheme took effect (except work done for the purpose of finishing a building or carrying out a contract entered into before that date) is, unless the development is carried out in accordance with the terms of an Interim Development Order of the Minister under Section 10 of the Town and Country Planning Act, 1932, liable to be removed, pulled down, or altered, without compensation and at the cost of the owner, if found to contravene the scheme when it comes into operation. Similarly if any building or land is after the above-mentioned date put to a new use not in accordance with the Interim Development Order and the new use is found to contravene the scheme when operative the new use of the building or land may be prohibited under penalty, without compensation, and the land reinstated at the cost of the owner.

† "Development" is defined in Section 53 of the Town and Country Planning Act, 1932. Broadly speaking it includes building operations or re-building operations (including incidental road works and the placing of structures and erections on land) and any change in the use of land or buildings except where the use is for certain specified agricultural purposes.

The Minister has made a general Order under this section (the Town and Country Planning (General Interim Development) Order, 1933‡) and Local Authorities who have planning schemes in preparation can by virtue of the Order and the section grant permission for development subject to compliance with such conditions as they think proper to impose with a view to securing the objects of the scheme. Under sub-section (3) of the section the application is deemed to have been granted unconditionally if the Local Authority do not within a period of two months from the receipt thereof, or such longer period as the applicant may agree in writing to allow, give notice that they have decided to the contrary, stating their reasons for so doing. The decision of the Local Authority, as also the reasons for the decision where these are required to be stated, must be in writing.

The section provides for appeal to the Minister against any conditions imposed, or against the refusal of permission. The appeal must be made within twenty-eight days of the receipt of notice of the decision of the Local Authority or such longer period as the Minister may allow.

When a scheme is approved and in force, all development in the area covered by it must comply with it.

This brief statement of the position during the interim period is not intended to be more than a general indication of what the Act and Order provide. The terms of the Act and Order themselves should be carefully studied in order to ascertain the precise position in regard to proposals for development. The responsibility is with the developer to satisfy himself, if need be by seeking private legal advice, whether or not it is necessary for him to submit an application to the Local Authority under the Order, for permission, before proceeding with development.

"HABITATION CERTIFICATES"

16. In some local Acts, and probably still in a few series of bye-laws not of recent date, there is a requirement that before a new dwelling-house is let or occupied a certificate that it is fit for human habitation must be obtained from the Local Authority's surveyor.

The Minister does not normally allow such a bye-law to-day.

There are thus few districts where these certificates must be obtained before a building can legally be let or occupied.

Even in districts where it is not compulsory, a purchaser or mortgagee of the property may sometimes ask for such a certificate, and some Local Authorities are willing to grant one in similar terms (usually to the effect that the house has been inspected, and, maybe, that they found no reason to question the legality of the work). *Unless, however, there is a local Act or a bye-law making it compulsory to obtain a certificate, there is no obligation on the person proposing to let or occupy a new house to obtain one*, nor on the Local Authority or their officials to give one (but see paragraph 14 above, relating to water supply).

TEMPORARY BUILDINGS

17. Paragraphs 5 and 6 of this memorandum refer to buildings within the meaning of the Public Health Act, 1875. There is a further class of structure to be considered briefly, namely, "temporary buildings" within the meaning of

‡ Statutory Rules and Orders, 1933, No. 236. Copies, price 2d. each, may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, directly or through any bookseller.

Section 27 of the Public Health Acts Amendment Act, 1907. It has been held by the Courts that bye-laws made under the Public Health Act, 1875, may apply to these temporary buildings. If they do, the builder must comply with both sets of requirements. Section 27 of the Act of 1907 requires that, *if the building is in fact temporary*, plans and a specification shall be submitted to the Local Authority and their permission shall be obtained before it is erected, and sub-section (3) of the section empowers them to attach to that permission any conditions which they deem proper as to the healthiness of the building, the prevention of fire risk, and the period during which it shall be allowed to stand. Approval or disapproval must be given in writing by the Local Authority *within one month* of the delivery of the plans and specification to them and, if permission is refused or if the builder thinks the conditions imposed unreasonable, he has a right of appeal to Quarter Sessions. *He has no right of appeal to the Minister of Health.*

Section 27 of the Act of 1907 does not authorise the charging of any fee in connection with the issue of permission under the section, or contemplate the execution of any form of agreement. It empowers the Local Authority to pull down or remove a temporary building erected without permission or not in conformity with any condition which may in pursuance of sub-section (3) have been attached to permission, or to proceed against the offender for penalties.

Persons writing to the Minister frequently describe a proposed building as temporary, apparently under the impression that the legal requirements with which they must comply will then be less. *This is quite mistaken; the permission of the Local Authority is not required* for the erection, in accordance with the bye-laws and other legal provisions in force, of a building which is not temporary, whereas it is required for a temporary building wherever Section 27 of the Act of 1907 (or an equivalent provision in a local Act—see paragraph 4 above) is in force. But it should be noted that any building expressly exempt from the operation of the bye-laws is also exempt from the operation of the section.

TENTS, VANS AND SHEDS

18. For the sake of completeness another class of structure should be mentioned, namely, tents, vans, sheds, and similar structures, used for human habitation. These can normally be erected or brought into a district without permission from the Local Authority, and without the submission of plans, but under Section 9 of the Housing of the Working Classes Act, 1885, as amended by Section 43 of the Public Health Act, 1925, if a nuisance is created, or if the Local Authority have made bye-laws regulating the use of these structures and the bye-laws are contravened, penalties will be incurred and the use of the structure for human habitation may be forbidden by the magistrates.

It should also be noted that merely to put wheels on a structure will not prevent its being legally a building or a temporary building, i.e., it may nevertheless fall within paragraph 17 or paragraph 6 of this memorandum.

WAIVER OF BYE-LAWS OR LOCAL ACTS

19. (*a*) Under Section 99 of the Housing Act, 1925 (as amended by the Housing Act, 1930) bye-laws and local Acts—note that the section does not extend to *general* Acts—can be waived in certain circumstances. This section applies primarily where operations under the Housing Acts are carried out, but sub-section (2) provides that if in any district such housing operations have involved departures from the bye-laws or local Acts, housing operations not carried out under the Housing Acts may involve departures from the *same* bye-laws or local Acts *to the same extent*. Local Authorities have no discretionary power to refuse the right given by sub-section (2) of the section, but may (obviously) dispute a claim that a particular contravention is in fact to the same extent only as that which has already occurred in operations carried out under the Housing Acts. On this question of fact there is an appeal to the Minister.

(*b*) Where a planning scheme (see paragraph 15 of this memorandum) is operative it may provide for the relaxation of the bye-laws with respect to certain new streets (normally, those not likely to be used generally for through traffic).

Where a planning scheme is in course of preparation provision is made in the Interim Development Order for enabling development not in conformity with the bye-laws with respect to new streets to be authorised so that the development so authorised may be protected against possible interference without compensation under the scheme when finally approved and in force.

AMENDMENT REPEAL OR REVOCATION OF BYE-LAWS

20. Local Authorities, though unable to waive their bye-laws except as just explained, can prevent their applying unreasonably by formally amending them and they should be ready to amend them as soon as need arises. There is no legal difficulty about an amendment limited to particular proposals, if a case for this is made out and a case for general amendment is not. Obviously, where the bye-laws are of the unrestrictive type now usual, any person who seeks excusal from them for his own plans must show a stronger case than where the bye-laws contain obsolete restrictions, but circumstances may arise which were not foreseen when the bye-laws were made and are not likely to arise again, and a special amendment will then be justified and indeed desirable.

The Departmental Committee on Building Bye-Laws, which reported in 1918, recommended that all bye-laws as to streets and buildings should at least be reviewed every ten years. All Local Authorities have the power to *amend their bye-laws* so as to keep them up to date, and to repeal any which are found unnecessary, and since the beginning of the century it has been the policy of the Minister and his predecessors, the Local Government Board, to do all in their power to encourage such amendment or repeal. By Section 13 of the Housing, etc., Act, 1923, Parliament gave the Minister power to require a Local Authority to revoke any bye-laws likely to be an unreasonable impediment to building. This section was re-enacted in Section 101 of the Housing Act, 1925, and a separate memorandum explaining it will be sent upon request.

AGREED REFERENCES

21. In general, except as otherwise stated in this memorandum, the Minister of Health has no power to decide disputed points as to the approval of plans. Where, however, a builder, architect, or other person similarly interested is in dispute with a Local Authority as to whether his proposals comply with the law, the Minister is prepared to consider requests for his opinion *if both parties wish for it*: a separate memorandum as to the procedure for obtaining his opinion will be sent upon request. Persons aggrieved by the proposals of, or work carried out by, other persons should, however, note that this procedure is not suitable for settlement of disputes of that kind.

Book Reviews

MEDIÆVAL ARCHITECTURE IN SICILY

L'ARCHITETTURA SVEVA IN SICILIA, *by Giuseppe Agnello. Collezione Meridionale. Rome. 1935.*

L'ARCHITETTURA GOTICO-SVEVA IN SICILIA, *by Guido di Stefano. F. Ciuni. Palermo. 1935.*

The island of Sicily, on account of its antiquities, its history, and its natural beauty, has long attracted the attention of the student as well as the tourist, and much has been written on the temples, theatres and other buildings of ancient Greece and Rome it possesses. But works on its treasures of military architecture of the Middle Ages are scanty and these two books, which deal principally with this subject, are most opportune and welcome.

The art of defence reached a high degree of efficiency at an early period in Sicily. On the assault of Syracuse by the Romans under Marcellus in 214-212 B.C. such effective resistance was offered by the citizens in their use of the engines designed by Archimedes that the enemy drew off. The powerful petrariæ, which, graduated in size to suit the range, could throw heavy missiles to great distances; the grappling cranes, which could clutch a ship, lift up one end, then drop and sink it, and also with their iron hands could snatch men from the deck and drop them into the sea; and the "disappearing" engines, which, lying concealed, suddenly rose up from behind the parapet of a wall and discharged deadly missiles. These and similar devices, described by the contemporary writer Polybius, so discouraged the Romans that they desisted from attack and resorted to blockade. The walls of Syracuse, with their loopholes and battlements, had also reached a high state of development at this period.

With such traditions one might expect that, during succeeding periods, the military architecture of Sicily would be well in advance of that of its contemporaries, especially since the island remained the focus of military activity from the time of Archimedes to its union with united Italy in 1860. But whether its early prominence was sustained must be the subject of further investigation.

The above volumes are devoted particularly to one short, though important, period in the history of the island—the rule of the Swabian House of Hohenstauffen 1194-1266. But more precisely to the period of the powerful Emperor Frederick II, who was crowned king at Palmero in the year of his birth and passed the early years of his childhood on the island. Apart from its association with the Emperor, "Swabian" is not a very apt name for a type of architecture which receives its inspiration rather from Lombardy than Germany.

Signore Agnello has produced a work of great interest and value. He describes the castles, palaces, and some other buildings of the period, which are situated between Syracuse and Catania and also the castle and the tower of Frederick at Enna. One chapter is devoted to each building and the chapters are divided into sections dealing with the history, architecture, and details of the monument. The work is profusely illustrated by plans, sections and photographs. Long chapters are allotted to the castles of Maniace at Syracuse and of Ursino at Catania: both square castles with corner towers of a type developed later in North Wales and elsewhere. At Maniace the whole of the interior of the castle, except for a small central court, was vaulted, and each of the corner towers was occupied by a spiral stairway. The gateways are merely pierced through the walls, without extensions on either side or even barbicans: the whole castle, however, is enclosed by an outer wall. The castle of Ursino has a large central courtyard surrounded by vaulted halls. Here there are intermediate towers between the angles of the castle, and only two of these contain stairways: the other two and all the corner towers are devoted to defence. The second volume is small but replete with information and well illustrated. It includes the interesting hill castle of Salemi.

SIDNEY TOY [*F.*]

SLATING AND TILING

ROOF SLATING AND TILING, *by Frank Bennett, A.R.I.B.A., and Alfred Pinion, with special contributions by other authors. London: The Caxton Publishing Co., Ltd. 1935. Price £1 3s. 9d.*

In a remarkably well-illustrated book of 300 pages the authors have set out to describe the whole business of slate and tile roofing, starting with the raw products, going on with their manufacture, and finishing with the actual operations of covering. Computation of the quantities of materials is also dealt with, and there is a valuable section on roof repair. Nor is this all, for of the 300 pages some 70 are devoted to the various uses to which tiles can be put in forming constructional and decorative building details, a feature which, by the way, is not indicated in the title.

The authors state that the book is written chiefly to interest the craftsman, but that the builder, the architect, the surveyor and others should find its information useful. There can be no doubt that it will fulfil these aims.

Nothing short of actual contact with the work itself can, of course, fully equip the designer much less the craftsman with the requisite knowledge for his job, for no book can do more than to indicate as clearly as may be the lines to be pursued; but this one carries us a long way in the right direction.

Considering the range of the subject-matter and the limits of space, it is not to be wondered if here and there the descriptions are not extended quite so fully as might be desired; but the authors have on the whole managed extremely well, particularly seeing that they have not confined themselves to roof coverings of the more ordinary sort but have most opportunely included the many others which have recently come into vogue, such as the varieties of machine-made single-lap tiles, and those of concrete and asbestos cement. As the book had to be restricted to 300 pages, it might have been better if a part at least of the 70 taken up by building details had been utilised to amplify the information on some of the roofing processes, which are the main concern. As an instance: in "laced" tile valleys the description might advantageously have set out the methods of starting at the eaves, a detail which often puzzles the novice. The right way in which to shorten a tile, leaving the tail intact, and of fixing shortened tiles by side nailing into notches might too have been mentioned.

In the reasons given for the traditional practices there is occasionally a tendency to advance appearance rather than

usefulness. For example, the steepening of hipped ends, although, as stated, it certainly does lengthen the ridge, did not primarily come about for this object, but for the very practical purposes of reducing the outward thrust exerted by the hip and common rafters on the wall plates at the corners and end of the building where a through cross-tie is impossible. It also, by steepening the pitch of the hip tiles which otherwise would lie at an unduly flat angle, is an aid to weather-tightness. Further, on dormer roofs, where in old examples the steepening is often pronounced, the effect is to lessen the area from which rainwater is shed by the eaves immediately above the dormer windows, and which before eave gutters came into use might be driven in.

A few inconsistencies have crept in. For instance, though in describing undercloaking courses the tiles are quite rightly specified to be laid back downwards, many of the diagrams do not show them so, but as hanging on their nibs. And again, whereas in the specification for clay tiles a "cross-camber" is very properly enjoined, later on in the book this form is, rather surprisingly, deprecated as being likely to lead to the admission of rain, with an implication that the form is dictated by appearance; the practical advantages given by a moderate cross-camber being altogether ignored.

A small point is that in the diagram of the so-called "Winchester Cut," the traditional way of finishing tile-hanging against verges, the tile next to the verge is shown as having been cut on the edge which abuts on to it, and not, as is more usual and better, the edge further from it so that its friction against the cut edge of the adjoining tile will afford an additional safeguard against the tile slipping down, besides making a more even fit. When the upper edge is uncut the tail of the tile lies, of course, at right angles to the verge.

There is, too, sometimes a tendency to stress the advantages of certain usages to the exclusion of other sound and well-tried customs; it is surely going rather far to claim for lead soakers and stepped cover-flashings that their provision is the only properly effective way of joining tiles or slates to chimney-stacks? A point for question is whether for cement mortar when used in conjunction with tiles so rich a mix as 3-1 might not give rise to trouble?

The section on shingles suggests its being based on American rather than on English practice; tin shingles as specified are generally unsuitable in this atmosphere.

In the notes on roof repairs, which are generally very good, it seems a little strange to find no direct reference to one well-known source of wholesale damage—that is, the lifting and carrying away of tiles and slates during gales by what may be termed wind suction acting on the leeward roof slopes, including those behind chimney-stacks. This may take place in windswept districts when the slates or tiles are light, the pitch of the roof flattish and the groundwork for the slates or tiles is of the open kind—that is to say, when the design is not adapted to meet the conditions. Again, attention might be specifically directed to the dangers of driving snow, of melting snow in open valleys and in gutters, and also of snow sliding down in masses on to and over eaves gutters, and the necessary precautions indicated.

Turning once again to tiling, a reference to hanging tiles on pegs is to be found in the section on quantities. Some descriptive matter would be useful, particularly in connection with repairs to old roofs where tiles are often hung in this way.

But though points such as these might be worth considering in a second edition, into which it is certainly hoped this book may run, they do not after all subtract from the very substantial value of the great mass of information given. The make-up and the letterpress are alike capital, and the many excellent line drawings all that could be desired.

In conclusion, the book is one which can be heartily commended to all who may be concerned with the building crafts; and the authors are to be congratulated upon their most praiseworthy effort.

R. Minton Taylor [*F.*]

OLD PEOPLE'S HOUSES

Housing the Old, *by Olive Matthews. Published by the author. 44 Creswell Place, London, S.W.10. 2nd edition. 1935. n.p.*

The author of this small pamphlet deals sanely and constructively with one of the most important minor aspects of the housing problem. Housing for the old has been badly neglected, partly perhaps because it lacks the drama of large scale housing and it is solely concerned with old people in an age when sentiment has turned from the roses round the door to sandpits for children. The necessity for greater attention to old people's housing was touched on by Mr. L. H. Keay in his recent R.I.B.A. paper and also in a recent broadcast talk between a young Dane and a young Englishman, in which the former spoke with dismay of our treatment or rather neglect of old people, which allowed them to spend their last years in the workhouse. In Denmark, he said, they arranged it so that their people spent their old age in places that were really homes for them. The reproach was deserved. This pamphlet is one good attempt to set us right. The architectural problem here, as in all housing problems, is tied so closely to sociological problems that they cannot be treated apart, nor does Miss Matthews try to do so. She deals with the incidence of elderly people and maiden women in the population and shows how essential it is from every point of view to plan for them. Incidentally she states that it costs about 25 shillings a week to keep an old person in the workhouse and suggests that good, simple, subsidised housing outside should be little if at all more expensive and infinitely happier.

There are illustrations of typical plans and a frontispiece of a scheme by Mr. G. Langley Taylor [*F.*] for a group of fourteen cottages.

On Monday, 6 January, Miss Olive Matthews will open a discussion at the Housing Centre at 6 p.m. on the subject of Housing the Old. There will also be an exhibition, open for a fortnight from 6 January, of designs, plans and equipment of old people's houses and flats.

BIRMINGHAM

Report of the Birmingham Civic Society, 1934-35

This report is, as usual, a credit to the officers and members of the Society, and a challenge to less adventurous cities.

The chief work of the year has been to save the famous Birmingham Repertory Theatre, which, after Sir Barry Jackson had decided to close his connection with the theatre, was in danger of being completely abandoned. Other and more architectural service has been to suggest variations in the draft Birmingham S.W. town-planning scheme so as to save King's Norton village green. This, after rejection by the Corporation, was brought to the Ministry of Health, whose decision is not yet known. The Society was also able to make successful recommendations with regard to the preservation of the Old School House, Yardley, has assisted the City Department in its choice of road furniture, and has generally maintained useful contacts with all sides of city life and planning.

Accessions to the Library

1935-1936—III

ARCHITECTURE

EMMETT (J. T.)
Six essays on—
I. The State of English architecture . . . 1872.
II. The Hope of English architecture . . . 1874.
III. The Profession of an architect . . . 1880.
IV. The Bane of English architecture . . . 1881.
V. The Ethics of urban leaseholds . . . 1879.
VI. Religious art . . . 1875.
(*From* Quarterly Review *and* British Quarterly Review. *With covering title-page.*)
8o. Lond. 1891.
Presented by Mr. Arthur Keen [*F.*].

SOCIETIES (GENERAL)

LIVERPOOL ARCHITECTURAL SOCIETY
The Architects' Diary. The year-book, *etc.*
8½″. (With separate advt. index. 8¼″.) 1935. R.

WEST YORKSHIRE SOCIETY OF ARCHITECTS
Green book. Sixtieth session, 1935-1936. 1935. 5s. R.

INSTITUTE OF SOUTHERN RHODESIAN ARCHITECTS
Year book. (*Including* Act of Incorporation.) 1934. R.

HISTORY

JEFFERY (GEORGE)
Cyprus monuments. Historical and architectural buildings.—The Mosques of Nicosia. (New illustrated series—No. 7.)
pam. 8½″. Nicosia. 1935. 1s. R.

AMELUNG (W.) *and* HOLTZINGER (H.)
*The Museums and ruins of Rome.
Reissue of 1906 edition. 2 vols. sm. 8o. Lond. 1912.
Presented by Mr. Allen Foxley [*F.*].

HONEYMAN (H. L.)
Some early masonry in north Northumberland. (*From* Archaeologia Aeliana. 4 S. xii.)
pam. 8¾″. Newcastle-upon-Tyne. 1935. R

SCHUMACHER (FRITZ)
Strömungen in deutscher baukunst [currents in German architecture] seit 1800.
9¾″. 192 + (6) pp. + 96 (backed) pls.
Leipzig : Seemann. 1935.
Presented by the author.

SCHUMACHER (FRITZ)
Stufen des lebens [steps in life]. Erinnerungen eines baumeisters [recollections of an architect].
8¾″. 431 pp. + pls. Stuttgart & Berlin : Deutsche Verlags-Anstalt. 1935.
Presented by the author.

DRAWING

JOHNSTON (EDWARD)
*Writing and illuminating, and lettering. (Artistic crafts series of technical handbooks.)
6th ed. 8o. Lond. 1913. *Extra Loan copy.*
Presented by Mr. Allen Foxley, M.A. [*F.*].

PROFESSIONAL PRACTICE

SOUTHPORT, *County Borough of*
Bye-laws relating to new buildings, etc. 1917 and 1931.
pam. 8½″. Southport. [193—.] R.

BUILDING TYPES

(CIVIL)

CAMBRIDGE : PUBLIC LIBRARY
Record and book-list. vii, Nos. 26-27 (Mar., June). *Containing :* Fenton (W. A.). The Story of the Guildhall site.
2 pams. 8½″. Cambridge. 1935.
Presented by the Borough Librarian.

YATES (EDWARD)
*Hampton Court.
7½″. 176 pp. + pls. Lond.: Duckworth. 1935. 3s. 6d. R. & P.

BUCKLER (J. C.)
An Historical and descriptive account of the Royal Palace at Eltham.
8o. Lond. 1828.
Presented by Mr. Allen Foxley [*F.*].

POLLAK, *publ.*
* Moderne ladenbauten, *etc.*
2nd ed. 11¾″. xvi + 165 pls. Berlin : Pollak. [1929.] (£1 2s. 6d.) P.
Loan Library only.

MARGOLD (E. J.), *editor*
* Bauten der volkserziehung und volksgesundheit.
11¾″. (16) + 362 pp. (mostly pls.). Berlin : Pollak. [1930.]* (£1 10s.) P.
Copy for Loan Library.

HALE (KATHERINE)
Canada's Peace Tower and Memorial Chamber. [Parliament buildings, Ottawa.] Designed by John A. Pearson. . . . A record and interpretation.
pam. 12″×9¾″. n.p. 1935. (50 c.)
Presented (2) by Dr. J. A. Pearson [*F.*], *of Toronto.*

(RELIGIOUS)

MURRAY (T. B.)
A Notice of Ely Chapel, Holborn ; with some account of Ely Palace : *etc.*
sm. 4o. Lond. 1840.

WESTLAKE (H. F.)
St. Margaret's, Westminster. The Church of the House of Commons.
la. 8o. Lond. 1914.

LEWIS (G. R.)
Illustrations of Kilpeck Church, Herefordshire : *etc.*
sm. fo. Lond. 1842.

FOX (SAMUEL)
The History and antiquities of the parish church of St. Matthew, Morley, in the county of Derby. With 17 illustrations . . . by George Bailey.
With original pencil drawing inserted. 4o. Lond. 1872.
—*All presented by Mr. Allen Foxley* [*F.*].

BOLTON (ARTHUR T.)
First model of St. Paul's. A Wren discovery, *etc.* (*Reprint from* The Times, 16 Nov.)
leaflet 1935.
Presented by Mr. A. T. Bolton [*F.*].

PERKINS (JOCELYN)
The Cathedrals of Normandy.
7½″. xi+316 pp.+(16) pls. Lond. : Methuen. 1935. 8s. 6d. R.

CROSSLEY (F. H.)
*The English abbey, *etc.*
8½″. xiv + 114 pp. + pls. Lond. : Batsford. 1935. 7s. 6d. R. & P.

(EDUCATIONAL)

MUNBY (ALAN E.)
*Laboratories : their planning and fittings.
[1st ed.] Sm. 4o. Lond. 1921. *Extra copy for Loan Library.*
Presented by Mr. Allen Foxley [*F.*].

(DOMESTIC)

MATTHEWS (OLIVE)
Housing the old.
2nd ed. pam. 8½″×6¾″. priv. prin. [193—.]
Presented by Mr. G. Langley Taylor [*F.*].

LUNDBERG (ERIK)
Herremannens bostad. Studier över Nordisk och allmänt västerländsk bostadsplanläggning.—L'Habitation seigneuriale, *etc.* (Kungl. Vitterhets Historie och Antikvitets Akademien.) I. Före 1700—talets mitt.
11¾″ × 9″. Stockholm: Akadiems Förlag. 1935.
Presented by the author.

MINISTRY OF HEALTH
Housing and town and country planning. Extracts from the Annual report . . . for 1934-35.
9½″. Lond. 1935. 1s. R.

FAMILY ENDOWMENT SOCIETY
Rent rebates. A method of achieving lower rents without higher subsidies.
pam. 9¾″. n.p. [1935.] 3d. R.

MESTON (DOUGALL)
The Housing Act, 1935.
9¾″. 1 + 144 pp.
Lond.: Sweet & Maxwell, *and* Stevens. 1935. 7s. 6d. P.

MINISTRY OF HEALTH
Housing. House production, slum clearance, etc. . . . Statement showing . . . to . . . September, 1935, the number of houses provided *etc.*
pam. 9¾″. Lond.: H.M.S.O. 1935. 3d. R.

ADLER (LEO), *editor*
* Neuzeitliche miethäuser und siedlungen.
11¾″. xvi + 272 pp. (mostly pls.).
Berlin: Pollak. [1931.] (£1 10s.) P.
Copy for Loan Library.

BRITISH STEELWORK ASSOCIATION
Working-class flats. Specification and working drawings. (9 sheets, including 1 text, folded.)
ob. 20″ × 26″ (unfolded). Lond. [1935.] R.

DETAILS

PLATZ (G. A.)
Wohnräume der gegenwart.
10¼″. 517 pp. (incl. pls.) + xv pls.
Berlin: Propyläen. [after 1933.] (£1 15s.) P.

JESSEN (PETER)
Meister das ornamentstichs. [Masters of ornamental engraving.] Eine auswahl aus vier jahrhunderten.
4 vols. 13″. Berlin: V. für Kunstwissenschaft. [19—.] 18s. each. P.
Vol. 1. Gotik und renaissance im ornamentstich.
Vol. 2. Das barock, *etc.*
Vol. 3. Das rokoko, *etc.*
Vol. 4. Der klassicismus, *etc.*

DORLING (E. E.)
Heraldry of the church, *etc.* (The Arts of the church *series.*)
6″. Lond.: Mowbray. 1911. (2s. 6d.)
Presented by Mr. J. Tudor-Craig.

HOPE (W. H. ST. JOHN)
*Heraldry for craftsmen and designers. (Artistic Crafts Series of technical handbooks.)
Reprint. 8o. Lond. 1929. *For Loan Library.*
Presented by Mr. J. Tudor Craig.

ALLIED ARTS

KAHN (E. J.)
Design in art and industry.
10½″. 204 pp. incl. pls. New York: Scribner's. 1935. 10s. 6d. P.

ASHTON (LEIGH) *and* GRAY (BASIL)
Chinese art.
9½″. 397 pp. (incl. 144 pls. + front.).
Lond.: Faber & Faber. 1935. £1 1s. P.

HOFFMANN, *publ.*
Danziger barock. Aufnahmen von werken der bildnerei und des kunstgewerbes aus öffentlichem und privatem besitz, *etc.* (Introd. by Georg Cuny.)
pfo. 13¼″ × 10¼″. (7) pp. + 48 pls.
Stuttgart: Hoffmann. [19—.] (£1.) P.

STUDIO, *publ.*
Special autumn numbers, *cont.*:—1935. Art in the U.S.S.R. C. G. Holme, ed.
11½″. Lond. 1935. 7s. 6d.
Presented by M. Tchernychev, architect, of Moscow.

SOCIETIES

SOCIETY OF INDUSTRIAL ARTISTS. *Limited.*
Annual report. 1934/35.
[1935.] R
Bye laws.
1935. R.

BRITISH SCHOOL AT ROME
Annual report: 35th. 1934-35.
[1935.] R.

BUILDING SCIENCE

REPAIR

SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS
*The Repair of vaulted buildings. By A. R. Powys and J. S. Wilson.
R.I.B.A. Jnl. 3 S. xlii, 1935, p. 1142: Reprint.

MATERIALS

TIMOSHENKO (S.) *and* MACCULLOUGH (G. H.)
Elements of strength of materials.
9″. x + 350 pp. Lond.: Macmillan. 1935. 14s. R.

CUPRINOL *Ltd.*: TECHNICAL DEPARTMENT
The Insect enemies of timber.
Reprint. pam. 8¾″. Lond. 1935. R.
Dry rot. Its prevention and cure.
Reprint. pam. 8½″. Lond. 1935. R.

BRITISH COMMERCIAL GAS ASSOCIATION
Heat treatment of steel. (Industrial uses of gas series, No. 6.)
pam. 11″. Lond. [1935.] R.

CONSTRUCTION

FABER (OSCAR)
*Examples of steel design under the new Code of Practice.
9″. Lond.: O.U.P. 1934. 7s. 6d. P. *for Loan Library.*

SANITARY SCIENCE AND EQUIPMENT

MARTIN (A. J.)
The work of the sanitary engineer.
8½″. xvi + 472 pp. + pls.
Lond.: Macdonald & Evans. 1935. 16s. P.

COAL UTILISATION COUNCIL
First National Coal Convention . . . London . . . 1935:—
Conference papers.
pam. 10″ × 8″. Lond. [1935.]
Official programme.
pam. 8″. Lond. [1935.]

PUBLIC WORKS, ROADS AND TRANSPORT CONGRESS, *London*, 1935
Papers. *No. 4. Gas utilisation in modern buildings.
9¾″. Lond. 1935. R.
Copy for Loan.

PROOFING AND ACOUSTICS

ADAM (J. D.)
Architectural acoustics, including sound insulation. (Thesis for Final Examination.)
typescript. 13″. 1935. R.

TECHNIQUE MODERNE, *journal*
——. (27e année, No. 7, 1st Apl.) *Containing:* Kessler (André): Les conditions acoustiques des salles d'audition.
pam. 12¼″. Paris: Dunod. 1935. 3s. P.

ANTI-NOISE LEAGUE
Leaflets. Nos. 1—4—.
pams. 8¼″. Lond. [1935—.] R.

(*To be continued*)

Review of Periodicals

Attempt is made in this review to refer to the more important articles in all the journals received by the Library. None of the journals mentioned are in the Loan Library, but the Librarian will be pleased to give information about prices and where each journal can be obtained. Members can have photostat copies of particular articles made at their own cost on application to the Librarian.

SCHOOLS AND UNIVERSITIES

CONSTRUCTION MODERNE. *Vol. LI. No. 11. 15 December. P. 230.*

Cité Scholaire of the Nationale Veterinary School at Alfort. A multi-storied building in brick by A. E. Bois.

DESIGN AND CONSTRUCTION. *Vol. VI. No. 2. December. P. 66.*

Technical College, Coventry, by A. W. Hoare [*L.*].

LIBRARIES

ARCHITECTS' JOURNAL. *Vol. LXXXII. No. 2136. 26 December. P. 948.*

Library, Christ's Hospital Girls' School, Hertford, by Sydney Tatchell [*F.*]. An octagonal building about 40 feet diameter with room for about 5,000 books and 32 readers.

CIVIC BUILDINGS

ARCHITECTURE (N.Y.). *Vol. LXXII. No. 6. December. P. 301.*

The United States Supreme Court Building, by Cass Gilbert, jr. A vast classical building in white marble. Cost 9 million dollars to build.

BUILDER. *Vol. CXLIX. No. 4846. 20 December. P. 1099.*

Dudley Municipal Buildings, by Harvey and Wicks [*F.A.*]

SPORTS BUILDINGS

BATIR (BRUSSELS). *Vol. IV. No. 37. December. P. 401.*

Large indoor ice rink, "Le Pole Nord," Brussels, by Gavaerts and van Vaerenbergh. Rink floor 60 × 47 metres, spectators' boxes on floor level and in gallery, restaurants, etc.

SHOPS AND MARKETS

ARKITEKT (ISTANBUL). *Vol. V. Nos. 7-8. P. 191.*

Large vegetable market at Istanbul designed by city technical dept. Plans, photographs and details.

BRIDGES

JNL. INST. OF MUNICIPAL AND COUNTY ENGINEERS. *Vol. LXII. No. 13. P. 661.*

A philosophy of æsthetic bridge design. An interesting paper by I. G. Macdonald.

BOUWBEDRIJF. *Vol. XII. No. 25. 13 December. P. 265.*

Foot bridge over the line at Rotterdam Delftsche-Poort Station, by S. von Ravesteijn, and other station buildings, waiting-rooms, subways, etc.

INDUSTRIAL BUILDINGS

ARCHITECTURE D'AUJOURD'HUI. *Vol. VI. No. 11. November. P. 64.*

Faulquemont (France) coal mines buildings, by J. Madeline. A complete scheme with industrial, welfare and residential buildings, the former only are illustrated.

BYGGMÄSTAREN ALLMANNA UPPLAGAN (STOCKHOLM). *20 November 1934. P. 197.*

Large group of Silos at Malmö, by Gustaf Winberg.

HOSPITALS

ARKITEKTEN MAANEDSHAEFTE (COPENHAGEN). *Vol. XXXVII. No. 9. P. 129.*

Vanfore Hospital, by Poul Guildal. A medium-sized multi-storied orthopædic hospital, fully described and very well illustrated. Includes lecture theatres, gymnasium, and all usual departments.

ARKITEKT (ISTANBUL). *Vol. V. No. 9. P. 259.*

Hospital group at Djeviah Pasa.

CHURCHES

BYGGE KUNST (OSLO). *Vol. XVII. No. 11. P. 241.*

Lillestrommen Church, by Morseth and Wiel Gedde. 650 seats.

CEMETERIES, ETC.

ARCHITETTURA ITALIANA. *Vol. XXX. No. 11. November. P. 385.*

The great cemetery, Grappa. An astonishing scheme, a vast threequarter-circular pyramidal building, designed by G. Greppi, with sculpture by Castiglione. Also other funerary buildings and mausolea.

DOMESTIC

ARCHITECTURE D'AUJOURD'HUI. *Vol. VI. No. 11. November. P. 79.*

Detailed description of a private bungalow, by T. P. Sabatou, at Neuilly. An interesting open plan, all sides almost completely glazed.

ARCHITECTURE ILLUSTRATED. *December 1935.*

Small Houses and Bungalows in Devonshire, by Louis de Soissons [*F.*].

ARCHITECT AND BUILDING NEWS. *Vol. CXLIV. No. 4496. 20 December. P. 709.*

Kent House, Ferdinand St., N.W. A modern concrete block of flats for the St. Pancras House Improvement Society, by Connell, Ward & Lucas.

BYGGE KUNST (OSLO). *Vol. XVII. No. 11. P. 244.*

Flats with shops under, in Kirkeveien, Oslo, by Nissin and Brynning; in Bygde Allé, Oslo, by F. S. Platou; and in Sojiepl, Oslo, by A. Vejre.

HOTELS

TÉR ÉS FORMA (BUDAPEST). *1935. No. 12. P. 362.*

Scheme for a large hotel near Budapest, by Hoepfner and Rimanoczy.

THEATRES AND CINEMAS

CONSTRUCTION MODERNE (PARIS). *Vol. LI. No. 10. 8 December. P. 225.*

Small cinema, "Le petit Marseillais," rue de la Canebiere, Marseilles, by Montaut and Gorska. Seats 478 (280 on floor, rest in gallery).

MONATSHEFTE F. BAUKUNST U. STADTEBAU. *Vol. XIX. 12 December. P. 401.*

"*Thingstatten*" in the Black Mountains at Erzgebirge, Halle-Brandberge, Schmiedeberg, Dubener Heide, Jülich and Passau. Open-air arena for community gatherings.

BOUWKUNDIG WEEKBLAD ARCHITECTURA. *1935. No. 49. 7 December. P. 508.*

Competition schemes for a theatre at Arnheim.

RESTAURANTS AND ENTERTAINMENT PAVILIONS

BAUMEISTER. *Vol. XXXIII. No. 10. October. P. 367.*

Scheme for a small country restaurant with sun-bathing place, Cologne-Grüngürtel.

ARCHITECTS' JOURNAL. *Vol. LXXXII. No. 2134. 12 December, and following nos.*

ARCHITECT AND BUILDING NEWS. *Vol. CXLIV. No. 3496. 20 December.*

BUILDER. *Vol. CXLIX. No. 4846. 20 December. P. 1104.*

Bexhill Pavilion, by Mendelsohn and Chermayeff [*F.*].

CONSTRUCTION

ARCHITECTURAL FORUM. *Vol. LXIII. No. 6.*

Practically the whole of this number is concerned with problems of the construction of small houses. There are articles on Foundations, Waterproofing, Termite control, Prefabrication (examining recent development of prefabrication in the U.S.A., with 33 data sheets on the most modern technique), Air conditioning ("a realistic study of what air conditioning can do at what cost in a typical house for which manufacturers design suitable systems"), Insulation, Roofing, Lath and Plaster, Windows, Glass, Floor and Wall coverings, Plumbing, Heating, Wiring, and Lighting. A useful reference.

BYGGMÄSTAREN ARKITEKTUPPLAGEN. *1935. 13 November. P. 190.*

Gothenburg Concert House. An important building by N. E. Eriksson; carefully studied acoustics and easy cheerful design.

BAUMEISTER. *Vol. XXXIII. 12 December.*

In supplement: Article on timber buildings with details of construction.

EQUIPMENT

JOURNAL OF INSTITUTE OF HEATING AND VENTILATING ENGINEERS. *Vol. III. No. 33. P. 361.*

Experiences with district heating in Europe and U.S.A. and its further development. Article by A. Margolis.

GENERAL

ARKITEKT (ISTANBUL).

This Turkish journal is now regularly received by the R.I.B.A.

ARCHITECTURE D'AUJOURD'HUI. *Vol. VI. No. 11. November.*

Description of the third International Reunion tour in Central Europe, illustrated by many photographs of the members of the party and of the buildings vitited in Czechoslovakia, Hungary, Austria.

ARCHITECTURAL RECORD. *Vol. LXXVIII. No. 6. December. P. 359.*

Williamsburgh. Long article on the restoration of one of the most perfect Colonial towns in the States. Many plans and measured drawings and photographs.

ARCHITECT AND BUILDING NEWS. *Vol. CXLIV. Nos. 3495-6. 12-20 December.*

Mr. H. S. Goodhart-Rendel's latest Slade lectures at Oxford on the architecture of North Oxford.

Correspondence

Housing Department,
Municipal Annexe,
Dale Street, Liverpool, 2.
27.12.35.

To the Editor, JOURNAL R.I.B.A.

SIR,—Tardiness in replying to the letter of Mr. Trystan Edwards in your issue of the 7th instant enables me to use one stone for a dual purpose. I am confident that Mr. Edwards would readily admit that the City of Liverpool is both democratically and wisely governed. Those unfortunate persons who, with little option, have been compelled to live in the narrow streets I referred to in my paper have elected their representatives to the City Council. That body, with full knowledge of the conditions which have existed too long and with a very clear mandate, has approved an eight-year slum clearance programme involving the erection of over 10,000 flats and 5,000 cottages. So great is the demand for flats in the central areas of the city that none of the displaced families will be compelled without "their consent and good will" to be "transported to the blocks of flats five floors high." They will be urged to accept accommodation on one of the estates of single-family houses provided by the Corporation.

Liverpool has been building flats since 1869. It is because the City Council has knowledge of the general improvement in the health of the people so rehoused that it has continued to build this form of housing accommodation. Nearly twenty years ago, at a Congress held in London under the auspices of the National Housing and Town Planning Council, Mr. Alderman Austin Harford, Deputy Chairman of the Liverpool Housing Committee, gave these striking statistics in relation to a large insanitary area situated near the centre of the city.

	Insanitary Area.	Rate for Entire City.	Corporation Dwellings.
Births	39.59	29.25	53.31
Deaths	37.89	18.5	27.82
Infantile mortality ..	246.43	134.93	167.24
Phthisis	3.94	1.5	1.67

In common with all local authorities, the Liverpool Corporation publishes health statistics annually. Mr. Edwards can obtain the figures for the intervening years by an analysis of the reports of the Medical Officer of Health.

Mr. E. G. Holtom, in your issue of the 21st instant, seems to doubt the success of the present slum clearance and rehousing proposals. I do not share his anxiety, and even if the schemes appear financially suicidal to him I suggest we cannot afford to leave them undone. High rates may affect industries, but it is not the almost insignificant contribution of 3.94d. in the £ for the proper housing of over 30,000 families of the lower-paid wage earners which is crippling Liverpool to-day. I suggest Mr. Holtom knows the reasons as well as I do, and I am not a politician.

Yours faithfully,
L. H. KEAY [*F.*],
Director of Housing.

Obituary

EDWARD MITCHEL GIBBS, M.A., J.P. [*F.*]

We regret to record the death of Mr. E. M. Gibbs, of Sheffield, one of the senior members of the Royal Institute, who died at the age of 88 on Sunday, 22 December 1935.

Mr. Gibbs received his early training as an architect at the Sheffield School of Art (where he won national bronze medals and other prizes) and later at the Royal Academy Schools in London. In addition, he learnt the practical side of building by acting as clerk of works for a Bradford builder.

He was articled to the late Thomas J. Flockton, and afterwards served as an assistant to Alfred Waterhouse, R.A., in London, and began practice on his own account in 1872, acting as architect for the Sheffield Public Baths, and the Highfield and Upperthorpe branch libraries.

In 1878 he entered into partnership with Mr. Flockton, in conjunction with whom he designed the Mappin Art Gallery, the Church of St. John the Evangelist, Ranmoor, and many shops in High Street and Fargate. With the death of Mr. T. J. Flockton he became the senior partner of the firm, which was then styled Gibbs & Flockton.

Among his important buildings in Sheffield are the Fever Hospital at Lodge Moor, the University (including the Arts Department in Western Bank and the Applied Science Department in St. George's Square), the Channing Hall, the Athenæum Club, the present offices of the *Sheffield Telegraph*, several branch banks, the University Mining Department, the Royal Hospital Annexe (Fulwood), Glossop Road Baths, the Builders' Exchange, the Blind School in Manchester Road, Ranmoor Church, Fire Station, Foster's Buildings, White Building (Fitzalan Square), Bluecoat School, and very many of the large residences, saleshops, showrooms, and offices of the city. In London he designed the *Sheffield Telegraph* buildings in Fleet Street.

Mr. Gibbs was retained by the Corporation in all cases of arbitration under the Sheffield Tramways Street Widening Act of 1897.

He was surveyor, jointly with Major C. B. Flockton, to the Town Trustees, and other important surveyorships held by his firm were those of Birley's Charity and Sheffield Royal Grammar School.

He was a Fellow of the R.I.B.A. and a Past President of the Sheffield and South Yorks Society of Architects and Surveyors. In 1906 he was appointed a Justice of the Peace.

Mr. Gibbs was deeply interested in town planning, and went abroad to study what had been done in Germany and elsewhere. He prepared a model town plan for Sheffield, and was the joint author with his partner of the scheme for a central railway station for Sheffield in the neighbourhood of the Haymarket. The scheme was laid before the Improvement Committee of the City Council in 1894, but was not adopted.

Mr. Gibbs took a deep interest in the housing question and foresaw the difficulties long before the politicians began to be interested in the matter. He directed his attention mainly to the financial side of the question, and he prepared a complete scheme which, had it been adopted at the time, would have gone far to provide the houses required, at very little or no cost to the taxpayer. It was allowed to drop at the time, but it was somewhat favourably referred to later on, after the opportunity for its application had gone.

During the Great War he was a member of the West Riding Recruiting Appeal Tribunal.

In 1918 he was appointed a member of a National Committee, set up by the Ministry of Reconstruction, to deal with the question of after-the-war rents and housing. To the report of the Committee, published in March 1919, he appended reservations, explaining his views as to the lines on which legislation should deal with increases of rent, mortgage interest, and other matters.

Mr. Gibbs was an honorary Master of Arts of the University of Sheffield. He was one of the founders of the local Society of Architects, and was largely instrumental in establishing a Department of Architecture at the University, and subscribed considerable sums towards its equipment and maintenance: indeed, but for his generosity and influence the Department would probably have been allowed to drop.

In politics he was a Liberal, but he took little or no share in Party warfare.

For many years he was a strong supporter of Upper Chapel, Norfolk Street, and in his younger days was superintendent of its Sunday school shortly after its foundation in 1885.

He married Miss Holdsworth, daughter of the late Mr. Albert Holdsworth, who was manager of the Sheffield and Hallamshire Bank. Mrs. Gibbs died on 3 March 1934.

Mr. Gibbs met with a serious accident in November 1920. He was knocked down near his home by a motor-cycle and had his collar-bone broken, as well as injuries to his head. At one time his condition was serious, but in spite of his age Mr. Gibbs made a splendid recovery.

His practice will be continued by his son, Mr. H. B. S. Gibbs [*F.*].

PROFESSOR J. E. A. STEGGALL, M.A., LL.D. (Hon.), F.R.S.E. [*Hon. A.*]

We regret to announce the death of Professor J. E. A. Steggall, an Honorary Associate of the Institute. Professor Steggall died at Dundee on 26 November, a week after his eightieth birthday. His academic career was one of great distinction. He was second wrangler at Cambridge in 1878, and first Smith's prizeman in the same year. After teaching for a time at Clifton College he became a lecturer at Owen's College, Manchester. From 1882 to 1897 he was Professor of Mathematics at University College, Dundee, and from 1897 to 1933 at the University of St. Andrew's. On his retirement he was given the title of Emeritus Professor. Professor Steggall showed great interest in the R.I.B.A. Library, and himself possessed an unusually fine collection of architectural books, some of which he has left to the Institute.

G. H. RAWCLIFFE [*L.*]

Mr. George Herbert Rawcliffe, of Sheffield, died on Thursday, 5 December, after a long and painful illness. He was a partner in the firm of Rawcliffe & Ogden since 1920: he was a clever and versatile architect, and designed many factories and other buildings of considerable importance in Sheffield, the chief being the new synagogue in Wilson Road, Sheffield. Before starting practice in Sheffield he had been associated in the re-designing and erection of several buildings in San Francisco after the earthquake.

Mr. Rawcliffe was articled to his father, the late G. B. Rawcliffe, himself a well-known Burnley architect; his elder brother, the late Rowland Rawcliffe, was for many years connected with the well-known architect and perspective artist the late C. W. English.

He is survived by a widow and one daughter.

NOTES

EXHIBITION OF WORK EXECUTED BY WOMEN ARCHITECTS

An exhibition is being arranged by the Building Centre in conjunction with women members of the Royal Institute of British Architects, of work actually carried out by women architects. The exhibition will be held in February, and will consist of photographs, models and coloured drawings of interior decoration, furniture, etc. All interested are invited to send, in the first instance, small photographs or sketches, from which a selection can be made for the exhibition. From the selected exhibits enlargements and finished drawings will be required mounted on cards.

Preliminary prints, etc., should be sent to Miss Alma Dicker [*A.*], Hon. Secretary, c/o The Building Centre, 158 New Bond Street, W.1, not later than 10 January 1936.

C.P.R.E., R.I.B.A. and I.O.B. ADVISORY PANELS

The Central Panels Committee met on Friday, 13 December 1935, when it was reported that :—

(1) (*a*) The Cornwall Panel has been consulted in the matter of Slum Clearance at St. Ives.

(*b*) Mr. Tonar, convener of the Devon and Cornwall Panel, has resigned, and Mr. H. M. R. Drury has been nominated to take his place. A letter of thanks has been sent to Mr. Tonar for his past services.

(2) A County Panel on the lines of the Central Committee's Report is in progress of formation for the county of Cheshire. This has been brought about at the suggestion of the C.P.R.E. Cheshire County Branch, in consultation with the Manchester Society of Architects and the Liverpool Architectural Society.

(3) The North Staffordshire Architectural Association is prepared to support any action by the R.I.B.A. in connection with the Advisory Panel organisation.

(4) The Sheffield, South Yorkshire and District Society of Architects and Surveyors is prepared to give whole-hearted support to the Panel movement in its effort to raise building standards and the education of public taste in building.

(5) The Hampshire and Isle of Wight Architectural Association Panel procedure is to be discussed at a General Meeting convened for 17 January next.

(6) The West Yorkshire Society of Architects (Huddersfield Branch) : At a meeting of the Branch Committee held on 13 December the members expressed themselves as entirely sympathetic with the efforts made by the Panels, and confirmed their willingness to help.

(7) The Norfolk and Norwich Association of Architects is in full sympathy with the Panels Report, and proposes to consider how best it can act on the recommendations contained therein.

(8) The South Wales Institute of Architects indicates that the Central Committee can reckon on its support in making the Panel organisation an effective service.

(9) The Coventry Society of Architects conveys its full sympathy with, and support of, the Panel movement.

(10) The Wessex Society of Architects has for a long time been rendering useful Panel service, and intends to give the movement its full support.

G. H. Jack,
Panel Secretary.

PUBLICATIONS ON AERODROME DESIGN

A few copies still remain of the following publications issued by the R.I.B.A. Aerodromes Committee (now merged into the Aerodromes Advisory Board). They can be obtained from the R.I.B.A. at the prices stated.

The Requirements for Civil Aerodrome Design. By John Dower, M.A. [*A.*]. Secretary Aerodromes Committee ; 9 pp. foolscap typescript. January 1933. 6d.

Aerodromes. By John Dower, M.A. [*A.*], reprint of R.I.B.A. sessional Paper. 1932. 1s. 6d.

Some Aerodromes in Germany and Holland. By John Dower, M.A. [*A.*], reprint from R.I.B.A. Journal 1931. 1s. 6d.

There are also available a few copies of the Journal of the Royal Aeronautical Society containing a paper on Airport Development by Nigel Norman, January 1933. 3s. 6d.

THE ROYAL SANITARY INSTITUTE

Henry Saxon Snell Prize

The Henry Saxon Snell Prize was founded to encourage improvements in the construction or adaptation of sanitary appliances, and is to be awarded by the Council of the Royal Sanitary Institute at intervals of three years, the funds being provided by the legacy left by the late Henry Saxon Snell (Fellow of the Institute).

The Prize in the year 1936 will consist of Fifty Guineas and a Silver Medal of the Institute, and is offered for an essay describing suggested Improvements in the Construction or Adaptation of Sanitary Appliances.

The General Conditions are as follows :—

1. The essay to consist of not more than 5,000 words, to be typewritten on foolscap, one side only, and to be illustrated by drawings or sketches.

2. Two competitors may combine in sending in an essay and drawings.

3. Essays must be delivered on or before 30 September 1936, addressed to the Secretary of The Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1.

4. The essay to be submitted without the name of the competitor.

5. The essay to bear a *nom de plume*, legibly marked on the right hand lower angle of the first sheet.

6. The essay to be enclosed in an envelope, bearing the words "Henry Saxon Snell Prize," and the competitor's *nom de plume* at the right-hand lower angle, and to be directed to the Secretary of The Royal Sanitary Institute.

7. The essay to be accompanied by a letter containing the competitor's name and address, which is to be enclosed in a separate envelope, sealed with a blank seal, and having on the outside "The Henry Saxon Snell Prize," and the same *nom de plume* as that attached to the essay submitted.

8. Should none of the essays be considered of sufficient merit or importance to deserve the prize offered, the Council reserve the right of withholding the award.

9. In the event of two essays being of equal merit, the prize may be divided.

10. The essay or essays to which the prize is awarded are to become the property of the Institute.

Should the Council decide to publish the essay or essays to which the prize is awarded, notice will be given to the competitor or competitors in order that patent rights may be secured, if desired, for any of the appliances mentioned in the essay or essays.

11. The carriage of the essay to and from the office of the Institute, and all expenses incidental thereto, must be paid by the competitor. Unsuccessful essays will be returned on application, on the production of a formal demand within a period to be specified after the close of the competition.

12. Due care will be taken of all essays, but the Institute will not be responsible for any loss of, or damage to them while they remain in its keeping.

Further particulars may be obtained from the Secretary, Mr. J. W. Dudley Robinson, 90 Buckingham Palace Road, London, S.W.1.

MR. A. B. KNAPP-FISHER [*F.*]

Mr. A. B. Knapp-Fisher [*F.*], of Messrs. Knapp-Fisher, Powell & Russell [*F.L.F.*], has been appointed consulting architect to the Allied Schools, comprising Stowe School, Wrekin College, Canford School, Westonbirt School, St. Monica's School, Lowther College, Felixstowe College and Harrogate College.

NOTES FROM THE MINUTES OF THE COUNCIL

2 December 1935

MR. E. GUY DAWBER, R.A.

Upon the proposition of the President, the cordial congratulations of the Council were conveyed to Mr. E. Guy Dawber (Past-President) upon his promotion to the rank of Royal Academician.

THE EXAMINATIONS

(a) *R.I.B.A. Summer Examinations, 1935*

The Board of Architectural Education reported the results as follows :—

1. *Intermediate Examination.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
207	94	113	45

2. *Final Examination.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
173	66	107	38

(16 in Part I only.)

3. *Special Final Examination.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
38	9	29	24

(1 in Part I only.)

Special Examination in Design for Former Members of the Society of Architects.

Examined	*Passed*	*Relegated*	*Percentage Passed*
1	0	1	0

5. *Professional Practice Examination for Students of Recognised Schools.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
21	17	4	81

(b) *R.I.B.A. Examinations Overseas.*

The Board reported the results as follows :—

1. *Intermediate Examination, Cairo, May 1935.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
1	1	0	100

2. *Intermediate Examination, Salisbury, S. Rhodesia, May 1935.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
1	0	1	0

3. *Intermediate Examination, Nairobi, East Africa, May 1935.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
1	1	0	100

4. *Intermediate Examination, Perth, W. Australia, January 1935.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
1	1	0	100

5. *Final Examination, Nairobi, East Africa, July 1935.*

Examined	*Passed*	*Relegated*	*Percentage Passed*
2	1	1	50

(c) *Proposed Examination for Clerks of Works.*

The Board reported that the Incorporated Association of Clerks of Works has set up an Examination Board to conduct examinations for Clerks of Works, and invited the R.I.B.A. to nominate two representatives to serve on that Board.

The Board reported that they had appointed Mr. C. S. White and Mr. L. H. Bucknell to serve on the Examination Board.

SCHOOLS

The Leeds School of Architecture, The College of Art, Leeds.

On the recommendation of the Board it was decided that the recognition of the three years' full-time course and the five years' part-time course for exemption from the R.I.B.A. Intermediate Examination, and the recognition of the five years' Diploma Course for exemption from the R.I.B.A. Final Examination be continued.

The Liverpool School of Architecture, University of Liverpool.

On the recommendation of the Board it was decided that the recognition of the three years' full-time course for exemption from the R.I.B.A. Intermediate Examination, and the recognition of the five years' Degree Course and the five years' Diploma Course for exemption from the R.I.B.A. Final Examination be continued.

The School of Architecture, University of Manchester.

On the recommendation of the Board it was decided that the recognition of the three years' full-time course for exemption from the R.I.B.A. Intermediate Examination, and the recognition of the five years' Degree Course, and the five years' Certificate Course, and the five years' full-time course for exemption from the R.I.B.A. Final Examination be continued.

The Leicester School of Architecture, Leicester College of Arts and Crafts.

On the recommendation of the Board it was decided that the recognition of the three years' full-time course for exemption from the R.I.B.A. Intermediate Examination be continued.

PRIZES

R.I.B.A. Prizes at Schools of Architecture.

The Board reported the following awards :—

(a) The R.I.B.A. Donaldson Medal at the Bartlett School of Architecture, University of London—Mr. Norman Edwin Block.

(b) The R.I.B.A. Howard Colls Studentship at the Architectural Association—Mr. Serge George Kadleigh.

(c) The R.I.B.A. Henry Jarvis Studentship at the Architectural Association—Miss Gwyneth Mary McKenzie.

PROGRAMMES OF STUDY PROPOSED BY R.I.B.A. PRIZE-WINNERS

The Board reported that they had approved the programmes of study proposed by the following prize-winners :—

A. Mr. R. Edmonds (Henry Saxon Snell Prizeman 1935).

B. Mr. A. Esmé Gordon (Owen Jones Student 1934).

C. Mr. L. W. D. Wall (Archibald Dawnay Scholar 1935).

D. Mr. N. P. Thomas (Archibald Dawnay Scholar 1935).

E. Mr. A. M. Graham (Archibald Dawnay Scholar, Second Year, 1935).

REPORT OF TOUR SUBMITTED BY PRIZE-WINNER.

The Board reported that they had approved the evidence of study submitted by Mr. H. F. Hoar (Owen Jones Student 1933).

THE R.I.B.A. ARCHIBALD DAWNAY SCHOLARSHIPS

(a) *First Years of Scholarships.*

The Board reported that the Jury had awarded Scholarships as follows :—

(1) An R.I.B.A. (Archibald Dawnay) Scholarship of £50 for the year 1935-1936 to Mr. N. P. Thomas (Welsh School of Architecture, The Technical College, Cardiff).

(2) An R.I.B.A. (Archibald Dawnay) Scholarship of £50 for the year 1935-1936 to Mr. L. W. D. Wall (Welsh School of Architecture, The Technical College, Cardiff).

(b) *Second Years of Scholarships.*

The Board reported that the Jury had renewed the Scholarships of the following scholars for a second and final year, *i.e.*, 1935-1936 :—

(1) Mr. A. M. Graham (School of Architecture, Edinburgh College of Art), who was awarded an R.I.B.A. (Archibald Dawnay) Scholarship of £50 for the year 1934-1935.

(2) Mr. H. E. A. Scard (Welsh School of Architecture, The Technical College, Cardiff), who was awarded an R.I.B.A. (Archibald Dawnay) Scholarship of £50 for the year 1934-1935.

(c) *Last Instalments of Second Year Scholarship Monies.*

The Board reported that the Jury had approved the payment of the last instalments of their second year Scholarship monies to :—

1. Mr. J. Holt (Armstrong College School of Architecture, Newcastle-on-Tyne).
2. Mr. J. Muskett (Liverpool School of Architecture, University of Liverpool).

THE R.I.B.A. MAINTENANCE SCHOLARSHIPS

The Board submitted the following report of the Maintenance Scholarships Committee :—

Report of the R.I.B.A. Maintenance Scholarships Committee.

(a) *Renewals of Scholarships.*

The Committee report that they have renewed the Scholarships of the following candidates for the session 1935-1936 :—

R. W. Higgs (Birmingham School of Architecture), ordinary Scholarship of £100 per annum.

N. E. Block (Bartlett School of Architecture, University of London), Fourth and Fifth Year Maintenance Scholarship of £100 per annum.

P. F. Shepheard (Liverpool School of Architecture, University of Liverpool), A.G.B.I. Maintenance Scholarship of £100 per annum.

(b) *R.I.B.A. Ordinary Maintenance Scholarships.*

The Committee report that they have awarded R.I.B.A. Ordinary Maintenance Scholarships of £50 per annum each to A. M. Foyle, of London, and G. M. Thomas, of Huddersfield.

(c) *R.I.B.A. (Houston) Maintenance Scholarship.*

The Committee report that they have awarded an R.I.B.A. (Houston) Maintenance Scholarship of £100 per annum to D. McL. Craik, of London.

(d) *The Ralph Knott Memorial Maintenance Scholarship Tenable at the Architectural Association School of Architecture.*

The Committee report that they have awarded the Ralph Knott Memorial Maintenance Scholarship of £45 per annum to F. Verity, of the Architectural Association School of Architecture.

The R.I.B.A. Silver Medal and £5 in Books for Recognised Schools.

On the recommendation of the Board the R.I.B.A. Silver Medal and £5 in Books for Recognised Schools was awarded to Mr. Cecil Stewart, of the School of Architecture, Edinburgh College of Art.

The R.I.B.A. Bronze Medal and £5 in Books for Recognised Schools.

On the recommendation of the Board the R.I.B.A. Bronze Medal and £5 in Books for Recognised Schools was awarded to Mr. C. H. Hyde, of the Birmingham School of Architecture, and Certificates of Honourable Mention were awarded to Mr. Douglas Beaton, of the School of Architecture, Robert Gordon's Colleges, Aberdeen, and Mr. N. P. Thomas, of the Welsh School of Architecture, The Technical College, Cardiff.

THE ARCHITECTS' REGISTRATION COUNCIL

Mr. E. Berry Webber [*A.*] was appointed as one of the R.I.B.A. representatives on the Architects' Registration Council in place of the late Major Harry Barnes.

THE AERODROMES ADVISORY BOARD

The cordial thanks of the Council were conveyed to Mr. Maurice E. Webb [*F.*] and Mr. John Dower [*A.*] for their services as the R.I.B.A. representatives on the Aerodromes Advisory Board.

THE R.I.B.A. AERODROMES COMMITTEE

Professor Patrick Abercrombie [*F.*] and Mr. Lionel F. R. Coote [*A.*] have been appointed as additional members of the R.I.B.A. Aerodromes Committee.

CO-ORDINATING COMMITTEE ON ART AND INDUSTRY

Mr. L. H. Bucknell [*F.*] and Mr. R. A. Duncan [*A.*] have been appointed to represent the R.I.B.A. on the Co-ordinating Committee on Art and Industry.

R.I.B.A. ARCHITECTURE MEDALS : THE BERKS, BUCKS AND OXON ARCHITECTURAL ASSOCIATION

Mr. Edward Mauſe [*F.*] has been appointed as the R.I.B.A. representative on the Jury for the award of the R.I.B.A. Architecture Medal in the area of the Berks, Bucks and Oxon Architectural Association.

THIRTEENTH INTERNATIONAL CONGRESS OF ARCHITECTS, ROME, SEPTEMBER 1935.

The cordial thanks of the Council have been conveyed to the Hon. Alberto-Calza-Bini, President of the Thirteenth International Congress of Architects, for the hospitality shown by him and his Committee to the R.I.B.A. representatives at the recent Congress.

The thanks of the Council have also been conveyed to Lt.-Col. H. P. Cart de Lafontaine [*F.*] for his services as the official R.I.B.A. delegate.

REVISION OF ORDNANCE SURVEY MAPS

The Science Standing Committee reported that, in response to a request from the Secretary of the Ordnance Survey Committee, appointed by the Minister of Agriculture and Fisheries, they had submitted to that Committee two memoranda containing suggestions for the revision of Ordnance Survey maps.

The Committee further reported that representatives of the Science Standing Committee had attended a meeting with the Ordnance Survey Committee and given oral evidence in support of the memoranda.

The action of the Committee was approved and confirmed.

AIR RAID PRECAUTIONS HANDBOOK NO. 5—THE PROTECTION OF BUILDINGS AGAINST AIR RAIDS

The Science Standing Committee reported that they had appointed the Chairman, Mr. Thos. E. Scott [*F.*] and Mr. Eric L. Bird [*A.*] to represent the Royal Institute at a meeting of the Air Raid Precautions Department of the Home Office, in order to consider the draft Handbook on the protection of buildings against air raids, now in course of preparation by the Department.

The action of the Committee was approved and confirmed.

PAINT APPLICATION PANEL OF THE RESEARCH ASSOCIATION OF BRITISH PAINT, COLOUR AND VARNISH MANUFACTURERS

Mr. Alan E. Munby [*F.*] was appointed to represent the R.I.B.A. on the Paint Application Panel of the Research Association of British Paint, Colour and Varnish Manufacturers.

TOWN PLANNING AND HOUSING COMMITTEE

Mr. Percy W. Lovell [*A.*] and Major R. Hardy-Syms [*L.*] were appointed as additional members of the Town Planning and Housing Committee.

MEMBERSHIP

The following members were elected :—

As Fellows	9
As Associates	105
As Licentiates	13

Election, 13 January 1936.—Applications for membership were approved as follows :—

As Hon. Associate	1 application
As Fellows	12 applications
As Associates	19 ,,

Reinstatements.—The following ex-members were reinstated :—

As Licentiate : Vamanrao Viththalrao Vadnerkar.
As Student : John Frederick Lees Mercer.

Resignations.—The following resignations were accepted with regret :—

Kathleen Hutton Arthur [*A.*].
Garnett Garfield Garland [*L.*].
William Garnett Gibson [*L.*].
John Frederick Lees Mercer [*L.*].

Transfer to the Retired Members' Class.—The following members were transferred to the Retired Members' Class :—

As Retired Fellows : Sir Reginald Blomfield.
Henry Alfred Cooper.
Arthur Henry Durand.
As Retired Associate : Professor Frank Stephen Granger
As Retired Licentiates : Henry Troughton Candler.
Fitzroy Hyde Darke.
Henry William Dobb.
The Hon. Archibald McGarel-Hogg.

ALLIED SOCIETIES

THE BIRMINGHAM AND FIVE COUNTIES ARCHITECTURAL ASSOCIATION

The fifth meeting of the Session was held in the Galleries of the Royal Birmingham Society of Artists on Friday, 6 December. The President, Mr. Alfred Hale [*F.*] occupied the chair, and a paper entitled "Designing without Noise" was read by Mr. Hope Bagenal [*A.*].

As architects, the lecturer said, our central duty to the public is to provide proper living conditions for the home. To this end special study must be given to planning in order to avoid noise. Not only must there be proper arrangement of the rooms to each other, and the segregation of the sources of noise in the building, but attention must also be given to the proper placing of aerodromes, power stations, bus stops, and the like in relation to dwelling-houses.

The architect also must not hesitate to make a definite stand against the idol of cheapness. "The cheaper the noisier," Mr. Bagenal remarked, and added, "the extreme cases of noise nuisance to-day occur in cheap buildings, where very thin walls and floors are associated with thin plasters, and with equipment produced by cut-throat competition."

Before the reading of Mr. Bagenal's paper the President called attention to the visit of the Duke of Kent to Dudley on December 2, and the presentation by him to Mr. W. A. Harvey [*F.*] and Mr. H. G. Wicks [*A.*], the architects of the Dudley Town Hall, of the R.I.B.A. medal for the best building erected in the West Midlands during the past five years.

Later, on the same day, the Duke of Kent opened the recently completed Birmingham Central Fire Station, designed and carried out under the direction of the late City Engineer, Sir Herbert H. Humphries, C.B.E. [*L.*], and his successor, Mr. H. J. Manzoni.

Another royal visit to the Midlands took place on 10 December, when the Duke of York opened the new Technical College at Coventry. This was built from the designs of Mr. A. W. Hoare [*L.*], a member of the Coventry Chapter of the Birmingham and Five Counties Architectural Association.

At the sixth meeting of the current Session, held on Friday, 13 December, the chair was taken by Mr. S. N. Cooke [*F.*], Vice-President, and a lecture was given by Mr. C. H. James [*F.*]. The subject of the lecture was the City of Norwich new Municipal Building, and Mr. James showed, by means of a large number of lantern slides, the many difficult problems which had to be solved, and the many alternative schemes which were considered, before the final plans were decided upon.

SOUTH WALES INSTITUTE OF ARCHITECTS CENTRAL (CARDIFF) BRANCH AND THE WELSH SCHOOL OF ARCHITECTURE

The remarkable successes obtained by students of the Welsh School of Architecture were mentioned by the head of the school, Mr. W. S. Purchon, when at the Technical College, Cardiff, on Monday, 16 December 1935, he gave an address on the work of the school.

The occasion was the annual exhibition of designs and measured drawings by the students, arranged in conjunction with the South Wales Institute of Architects Central (Cardiff) Branch.

Mr. W. S. Purchon said that the school was opened rather more than fifteen years ago. During that time the school had gradually developed, first being granted the "intermediate" exemption of the Royal Institute of British Architects, and at a later date the "final" exemption of that body, which meant that its examinations were recognised as exempting successful students from the whole of the examinations leading to the associateship of the R.I.B.A. Two years ago the examinations of the Welsh schools were accepted as providing a full qualification for admission to the register established in connection with the Architects' Registration Act.

Last session six students completed the full-time five years' course and were awarded the college diploma, carrying with it the exemptions.

Six students were awarded certificates at the end of their third year and were thus exempted from the R.I.B.A. intermediate examination. Two of these students were granted the special certificate with distinction. During the previous session three students reached the final stage in the competition for the R.I.B.A. Victory scholarship. In the final result H. J. W. Lewis was awarded honourable mention. During last session H. E. A. Scard was a finalist for the Tite Prize: H. J. W. Lewis and D. W. Roberts were finalists for the Soane Medallion; while D. W. Roberts was a finalist for the Rome Prize.

The outstanding success of the past session was the winning by N. P. Thomas and L. W. D. Wall of both the Archibald Dawnay scholarships, each valued at £50 a year for two years. As H. E. A. Scard won a Dawnay scholarship in the previous session, of the four present Archibald Dawnay scholars three were thus students of the Welsh School of Architecture.

In many ways the R.I.B.A. and the South Wales Institute of Architects had been helpful to the school, while several of the leading local architects and others continued to help individually by the award of prizes and by acting as honorary lecturers, examiners, and members of Design Juries.

"I am sure that all concerned will pardon me if, on this occasion," said Mr. Purchon, "I only mention one of the names of those who help us in this way—Mr. Percy Thomas, who has brought great distinction to this city and to this school by being elected President of the Royal Institute of British Architects."

Much of the success of the school was due to the foresight and guidance of Principal Coles and to the great support given by the Technical College Committee, the Education Committee, and the City Council.

Until two or three years ago students who passed successfully through the courses of the school were usually able to obtain suitable appointments. There had been a period of difficulty, but it seemed to have passed, and he believed that all the holders of the school's diplomas were now engaged in suitable work. "We could, in fact, place more students if we had them," he said.

The exhibition was declared open by the Lord Mayor (Alderman G. Fred Evans, J.P.). Mr. C. F. Jones [*A.*], chairman of the Central Branch of the South Wales Institute of Architects, presiding over the ceremony.

The Lord Mayor said that among the scholarship-holders were students from all parts of South Wales. He could, as chairman of the Cardiff Education Committee, express the pride of that committee at the success of the college and of that particular branch of the work of the College.

Thanks to the Lord Mayor and the Chairman were accorded on the proposition of Professor Leslie Wilkinson, of Sydney University, who is at present visiting principal academic institutions in this country. He was supported by Councillor C. G. Moreland (chairman of the Technical College Committee) and Principal Charles Coles.

LEICESTER AND LEICESTERSHIRE SOCIETY OF ARCHITECTS

A gathering of nearly 200 attended a social evening of the Leicester and Leicestershire Society of Architects at the Oriental Hall, Leicester, on 4 December 1935.

Because of its informality, the entertainment was all the more enjoyable. Mr. Clement Stretton, president of the Society, and Mrs. Stretton, were host and hostess. They received the guests before the concert, which was given by Miss Irene Malin, Miss Lilian Dunkley, Mr. Parker Ashwell and Mr. Gordon Salmon.

Among the visitors were Mr. Claude Howitt, president of the Nottingham, Derby and Lincoln Society of Architects, and representatives of other professions in Leicester. Among officers of the Society present were Mr. G. A. Cope, hon. secretary, and Mr. P. H. Grundy, entertainments secretary.

Refreshments followed and the hall was cleared for dancing, for which the Hamilton Holt Players played the music.

Examination Results

THE INTERMEDIATE EXAMINATION.

NOVEMBER 1935.

The R.I.B.A. Intermediate Examination qualifying for election as Student R.I.B.A. was held in London, Edinburgh, Hull, Manchester, Newcastle, and Plymouth from 15 to 21 November 1935.

Of the 160 candidates examined 66 passed and 94 were relegated. The successful candidates are as follows :

Asbridge, Vincent Barnes.
Backhouse, Arthur Graham.
Barker, Alfred James.
Boddy, James William.
Brewster, Kenneth Arthur.
Brown, Thomas Leslie.
Bruce, Albert Henry.
Buck, Bernard.
Calder, Douglas William McNair.
Chapman, Ronald Frederick Henry.
Clark, James Nelson.
Coates, Walter Siddall.
Coombs, Ralph William.
Cowan, Ronald.
Cox, Geoffrey.
Crookes, Rowland.
Dewey, Alan Clifford.
Dickson, Frederick William.
Evans, William Trevor.
Hibberd, Leo Roy.
Hodges, David Michael.
Hodgson, Charles William.
Horsfall, Geoffrey Farnell.
Hyde, Leonard Arthur.
Lambert, Ronald.
Larkin, George Ismay.
Lawson, Theodore Fraser.
Leah, Egbert Alfred.
Lee, Gordon.
Lewis, John Antony.
Lewis, John Theodore.
Lister, Norman.
Loyd, John Clulow.
McCall, Norman Fotheringham.
Mallett, Arthur Edward Leslie.
Mendus, Howel.
Merrett, Victor Robert Joseph.
Middleton, Allen.
Millner, Geoffrey Ford.
Milne, William Fraser.
Moss, Geoffrey.
Murphy, Charles Gibson.
Neaves, Jack Sidney.
Pickersgill, Eric Roland.
Purcell, Donovan Cole.
Riley, Harry Stanley.
Rohm, Karl Robert.
Southey, John Blackmore.
Staziker, Fred.
Sunderland, Eric Stanley.
Taffender, William Clifford.
Tarling, Charles.
Thornton, Frederick.
Tooth, Douglas Ronald Noël.
Turner, Frank.
Walker, Percy Edwards.
Waller, Robert Eric.
Watson, Ronald James William.
Wildgust, Albert.
Wilkinson, Jack Mullineaux.
Williams, Andrew Hay.
Williams, Herbert John.
Williams, Thomas Denby.
Woods, Alan.
Yeats, George Reginald.
Zammit, Arthur John.

R.I.B.A. EXAMINATIONS, NOVEMBER AND DECEMBER 1935.

The questions set at the Intermediate, Final and Special Final Examinations held in November and December 1935 have been published, and are on sale at the Royal Institute, price 1/- (exclusive of postage).

Notices

THE FOURTH GENERAL MEETING, MONDAY, 13 JANUARY 1936, AT 8 P.M.

The Fourth General Meeting of the Session 1935-36 will be held on Monday, 13 January 1936, at 8 p.m., for the following purposes :—

To read the Minutes of the Third General Meeting held on 2 December 1935 ; formally to admit members attending for the first time since their election.

To announce the Council's nomination for the Royal Gold Medal, 1936.

To read the Council's Deed of Award of Prizes and Studentships, 1936.

The Hon. Humphrey A. Pakington [*F.*] to read a criticism of the designs and drawings submitted for the Prizes and Studentships, 1936.

THE FIFTH GENERAL MEETING, MONDAY, 27 JANUARY 1936, AT 8.30 P.M.

The Fifth General Meeting of the Session 1935-36 will be held on Monday, 27 January 1936, at 8.30 p.m., for the following purposes :—

To read the Minutes of the Fourth General Meeting to be held on 13 January 1936.

To present the Medals and Prizes, 1936.

The President, Mr. Percy E. Thomas, O.B.E., to deliver his Address to Architectural Students.

Evening dress optional.

EXHIBITION OF PRIZE DRAWINGS

The Annual Exhibition of Designs and Drawings submitted for the Prizes and Studentships, 1936, will be open at the R.I.B.A. from 14 January to 29 January inclusive. The Exhibition will remain open daily (Sundays excepted) free to the public between the hours of 10 a.m. and 8 p.m., Saturdays 10 a.m. and 5 p.m.

THE NEXT "SOCIAL EVENING" AND THE "EXHIBITION OF EVERYDAY THINGS"

The next Social Evening announced in the R.I.B.A. *Kalendar* to take place on Monday, 10 February 1936, has been POSTPONED until after the opening of the Exhibition of Everyday Things. The R.I.B.A. Social Committee are making arrangements for a special evening lecture on the exhibition to be given to members and their friends, followed by refreshments and a view of the exhibition. Full particulars and the date of the Social Evening will be announced in the next issue of the JOURNAL.

ANNUAL SUBSCRIPTIONS

Members' subscriptions, Students' and Subscribers' contributions became due on 1 January 1936.

The amounts are as follows :—

Fellows	£5 5 0
Associates	£3 3 0
Licentiates	£3 3 0
Students	£1 1 0
Subscribers	£1 1 0

NOTE.—By a resolution of the Council dated 20 July 1931 the subscriptions of R.I.B.A. members in the transoceanic Dominions who are also members of Allied Societies in those Dominions are reduced to the following amounts as from 1 January 1932 :—

Fellows	£3 3 0
Associates	£2 2 0
Licentiates	£2 2 0

COMPOSITION OF SUBSCRIPTIONS FOR LIFE MEMBERSHIP

Fellows, Associates and Licentiates of the Royal Institute may become Life Members by compounding their respective annual subscriptions on the following basis :—

For a Fellow by a payment of £73 10s. (70 guineas).

For an Associate or Licentiate by a payment of £44 2s. (42 guineas), with a further payment of £29 8s. on being admitted as a Fellow.

In the case of members in the transoceanic Dominions who are members of Allied Societies in those Dominions, the following basis will operate :—

For a Fellow by a payment of £52 10s. (50 guineas).

For an Associate or Licentiate by a payment of £31 10s. (30 guineas), with a further payment of £21 (20 guineas) on being admitted as a Fellow.

Provided always that in the case of a Fellow or Associate the above compositions are to be reduced by £1 1s. per annum for every completed year of membership of the Royal Institute after the first five years, and in the case of a Licentiate by £1 1s. per annum for every completed year of membership of the Royal Institute, with a minimum composition of £6 6s. in the case of Fellows and £4 4s. in the case of Associates and Licentiates.

NEW CLASSES OF RETIRED MEMBERS

Under the provisions of the revised Bye-law No. 15 applications may now be received from those members who are eligible for transfer to the class of "Retired Fellows," "Retired Associates," or "Retired Licentiates."

The revised Bye-law is as follows :—

"Any Fellow, Associate or Licentiate who has reached the age of fifty-five and has retired from practice may, subject to the approval of the Council, be transferred without election to the class of 'Retired Fellows,' 'Retired Associates,' or 'Retired Licentiates,' as the case may be, but in such case his interest in, or claim against the property of, the Royal Institute shall cease. The amount of the annual subscription payable by such 'Retired Fellow,' 'Retired Associate' or 'Retired Licentiate' shall be £1 1s. od., or such amount as may be determined by resolution of the Council, excepting in the case of those who have paid subscriptions as full members for thirty years, and who shall be exempt from further payment. A 'Retired Fellow,' 'Retired Associate,' or 'Retired Licentiate' shall have the right to use the affix of his class with the word 'Retired' after it, shall be entitled to receive the JOURNAL and *Kalendar*, shall be entitled to the use of the Library, and shall have the right to attend General Meetings, but shall not be entitled to vote. A 'Retired Fellow,' 'Retired Associate' or 'Retired Licentiate' shall not engage in any avocation which in the opinion of the Council is inconsistent with that of architecture. Nothing contained in this Bye-law shall affect the rights of persons who at the date of the passing of this Bye-law are members of the classes of 'Retired Fellows' and 'Retired Members of the Society of Architects.'"

R.I.B.A. ANNUAL DINNER 1936

The Annual Dinner will take place on Monday, 3 February 1936, at 7 for 7.30 p.m., in the R.I.B.A. Henry Florence Hall, 66 Portland Place, W.1. Full particulars were contained in the circular letter to members enclosed with the issue of the JOURNAL for 7 December 1935.

R.I.B.A. ANNUAL RECEPTION

The Council have decided to hold a Reception at the R.I.B.A. on Wednesday, 20 May 1936, from 9 p.m. to 12 p.m. Further details will be published in due course.

THE RECEPTION OF NEW MEMBERS AND STUDENTS AT GENERAL MEETINGS

It has been decided by the Council to modify the procedure for the introduction and reception of new members and students at General Meetings. In future new members and students will be asked to notify the Secretary beforehand of the date of the General Meeting at which they desire to be introduced and a printed postcard will be sent to each newly elected member or student for this purpose. They will be asked to take their seats on arrival on a special bench or benches reserved and marked for them. At the beginning of the meeting on the invitation being given to present themselves for formal admission each new member or student will be led up to the Chairman by one supporter, and the Chairman will formally admit them as members or students.

At the close of the meeting selected members of the Council will introduce themselves to the new members, and will make it their duty to introduce them to other members.

The introduction and reception of new members and students will take place at any of the forthcoming Ordinary General Meetings of the Royal Institute with the exception of the meetings on the following dates :—

27 January 1936. (Presentation of Medals and Prizes.)

6 April 1936. (Presentation of Royal Gold Medal.)

THE R.I.B.A. REGISTER OF ASSISTANTS SEEKING ENGAGEMENTS

Members and Students of the R.I.B.A. and the Allied and Associated Societies are reminded that a Register of Assistants seeking engagements is kept at the offices of the Royal Institute.

An assistant seeking employment should obtain from the Secretary R.I.B.A. the necessary form (to be filled up in duplicate) on which particulars must be given as to the applicant's age, qualifications, salary required, references, etc.

The application will hold good for one month from the date of receipt, after which it must be renewed unless the applicant has meanwhile obtained employment.

Architects, whether members of the R.I.B.A. or not, will be furnished on application with the names and addresses of persons desiring employment as assistants, improvers or clerks of works as the case may be. Architects applying for assistants should give the following particulars of their requirements : (1) whether temporary or permanent engagement ; (2) junior or senior assistants ; (3) particulars of duties and style of work : (4) salary offered.

DRAFT AGREEMENT BETWEEN A LOCAL AUTHORITY AND A FIRM OF ARCHITECTS

Enquiries are frequently received from both architects and local authorities as to whether the Institute publishes any standard precedent for a form of agreement for use between an architect and a local authority.

Mr. W. E. Watson, formerly the Hon. Secretary of the Practice Standing Committee, has, at the request of the Committee, drafted a form to meet this demand, and this draft has been approved by the Practice Committee and the Council.

Copies can be obtained on application to the Secretary R.I.B.A.

BRITISH ARCHITECTS' CONFERENCE, SOUTHAMPTON, 24-27 JUNE 1936

The Annual Conference of the Royal Institute of British Architects and of its Allied and Associated Societies will take place at Southampton from 24 to 27 June 1936.

The Hampshire and Isle of Wight Architectural Association have in hand the preparation of a most attractive programme and particulars will be issued in due course.

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the election to take place on 9 March 1936 they should send the necessary nomination forms to the Secretary R.I.B.A. not later than Saturday, 18 January 1936.

LICENTIATES AND THE FELLOWSHIP

The attention of Licentiates is called to the provisions of Section IV, Clause 4 (*b*) and (*cii*), of the Supplemental Charter of 1925. Licentiates who are eligible and desirous of transferring to the Fellowship can obtain full particulars on application to the Secretary R.I.B.A., stating the clause under which they propose to apply for nomination.

NEW BUILDING MATERIALS AND PREPARATIONS

The Science Standing Committee wish to draw attention to the fact that information in the records of the Building Research Station, Garston, Watford, is freely available to any member of the architectural profession, and suggest that architects would be well advised, when considering the use of new materials and preparations of which they have had no previous experience, to apply to the Director for any information he can impart regarding their properties and application.

Competitions

The Council and Competitions Committee wish to remind members and members of Allied Societies that it is their duty to refuse to take part in competitions unless the conditions are in conformity with the R.I.B.A. Regulations for the Conduct of Architectural Competitions and have been approved by the Institute.

While, in the case of small limited private competitions, modifications of the R.I.B.A. Regulations may be approved, it is the duty of members who are asked to take part in a limited competition to notify the Secretary of the R.I.B.A. immediately, submitting particulars of the competition. This requirement now forms part of the Code of Professional Practice in which it is ruled that a formal invitation to two or more architects to prepare designs in competition for the same project is deemed a limited competition.

CARDIFF: NEW GENERAL HOSPITAL

The Glamorgan County Council are proposing to hold a competition for a new General Hospital, and Mr. E. Stanley Hall [*F.*] has been appointed to act as Assessor. No conditions are available yet.

DUNDEE: COLLEGE OF ART

The Dundee Institute of Art and Technology are to hold a competition for the Duncan of Jordanstone College of Art. Conditions are not yet available.

EDMONTON: NEW TOWN HALL BUILDINGS

The Edmonton Urban District Council are proposing to hold a competition for new Town Hall Buildings, and Mr. E. Berry Webber [*A.*] has been appointed to act as Assessor. No conditions are available yet.

HARPENDEN: NEW PUBLIC HALL

The Harpenden Urban District Council invite architects of British nationality and domiciled in the United Kingdom to submit in competition designs for a new Public Hall.

Assessor: Mr. Robert Lowry [*F.*].

Premiums: £100, £75 and £50.

Last day for receiving designs: 1 March 1936.

Last day for questions: 31 December 1935.

HARROW: NEW MUNICIPAL OFFICES

The Urban District Council of Harrow invite architects of British nationality to submit, in competition, designs for new Municipal Offices.

Assessors: Mr. C. H. James [*F.*] and Mr. S. Rowland Pierce [*A.*].

Premiums: £350, £250 and £150.

Last day for receiving designs: 24 January 1936.

Last day for questions: 4 November 1935.

Conditions of the competition may be obtained on application to Mr. Vernon Younger, Clerk of the Council, Council Offices, Stanmore, Middlesex. Deposit £2 2s.

LUTON: NEW SECONDARY SCHOOL

The Bedfordshire County Council are proposing to hold an open competition for a new Secondary School for Boys at Luton, and Professor W. G. Newton [*F.*] has been appointed to act as Assessor. No conditions are available yet.

NEWCASTLE-UNDER-LYME: BLOCK OF SHOPS AND OFFICES

The Borough of Newcastle-under-Lyme are proposing to hold a competition for a new Block of Shops and Offices, and Mr. H. S. Fairhurst [*F.*], of Manchester, has been appointed to act as Assessor. No conditions are available yet.

SALISBURY, SOUTHERN RHODESIA: NEW PARLIAMENT HOUSE

The Government of the Colony of Southern Rhodesia invite architects of British citizenship to submit, in competition, designs for a new Parliament House to be erected at Salisbury Southern Rhodesia.

Assessor: Mr. James R. Adamson [*F.*].

Premiums: £500, £300, £200 and £100.

Last day for receiving designs: 31 January 1936.

Last day for questions: 26 August 1935.

Conditions of the competition may be obtained:—

(*a*) in England from the High Commissioner for Southern Rhodesia, Crown House, Aldwych, London, W.C.2.

(*b*) in South Africa from The Director of Public Works, P.O. Box 365, Salisbury, Southern Rhodesia. Deposit £2 2s.

SOUTHPORT: NEW CIVIC BUILDINGS

The Southport Town Council invite architects of British nationality to submit, in competition, designs for new civic buildings, comprising police headquarters, fire station, courts, etc., on the "Woodlands" site.

Assessor: Mr. E. Vincent Harris, O.B.E. [*F.*].

Premiums: £300, £200 and £100.

Last day for receiving designs: 29 February 1936.

Last day for questions: 1 January 1936.

Conditions of the competition may be obtained on application to Mr. R. Edgar Perrins, Town Clerk, Town Hall, Southport. Deposit £1 1s.

NORTH BRITISH ARCHITECTURAL STUDENTS ASSOCIATION COMPETITIONS

The North British Architectural Students' Association invite members (i.e., members of Schools and/or Allied Societies at Manchester, Glasgow, Edinburgh, Leeds, Sheffield, Hull and Newcastle) to submit, in competition, designs for:

1. A Church of England Chapel.

Assessor: Mr. H. L. Hicks [*F.*].

Prize : 10 guineas, presented by London Brick Co. and Forders, Ltd.

2. A Control Tower and Waiting Room for an Aerodrome.
Assessor : Mr. R. Bradbury [*A.*].
Prize : 10 guineas, presented by The Cement Marketing Co., Ltd.

Last day for receiving designs : 31 January 1936.

Conditions may be obtained on application to the Hon. General Secretary, N.B.A.S.A., School of Architecture, Armstrong College, Newcastle-upon-Tyne, 2.

COMPETITION FOR JOINT RAILWAY RECEIVING OFFICES IN LONDON

The four main railway companies (L.N.E.R., L.M.S., G.W.R. and Southern) are proposing to hold a competition for a design for Standard Joint Railway Receiving Offices in London, and the following have been appointed to act as Assessors : Mr. L. H. Bucknell [*F.*], Mr. C. Grasemann, Mr. W. H. Hamlyn [*F.*], Mr. Charles Holden [*F.*], Vice-President, R.I.B.A. No conditions are available yet.

Members' Column

Owing to limitation of space, notices in this column are restricted to changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and appointments vacant. Members are reminded that a column in the Advertisement Section of the Journal is reserved for the advertisements of members seeking appointments in architects' offices. No charge is made for such insertions and the privilege is confined to members who are definitely unemployed.

MR. ERNEST M. POWERS [*F.*]

Mr. Ernest M. Powers, F.R.I.B.A., having retired from the firm of Cowin, Powers & Ellis, practising at Pretoria, Johannesburg and Durban, South Africa, in which latter city he has represented his late firm for many years, will continue to practice in partnership with his son, Mr. F. W. Powers, A.R.I.B.A.

The style of the firm is Powers & Powers, 6-10 Southern Life Building, Smith Street, Durban, South Africa.

CHANGES OF ADDRESS

Mr. Ernest Ashworth [*L.*] has changed his private address to 11 Windsor Terrace, The Hoe, Plymouth, Devon.

Mr. R. J. Hersch, M.A. [*A.*] has moved from 2 Paul's Bakehouse Court, and opened an office at 6 Adam Street, Adelphi, W.C.2. Telephone : Temple Bar 6106.

Mr. E. Julian White [*A.*], M.R.San.I., has removed his office to 59 Inderwick Road, London, N.8.

NEW PARTNERSHIP

Mr. H. Yolland Boreham [*F.*], of the firm of E. Boreham, Son & Gladding, has taken into partnership his pupil and assistant, Mr. D. R. L. Wallace. The style of the firm will now be F. Boreham, Son & Wallace, and the practice continued at the present address, No. 1 Museum Street, London, W.C.1.

OFFICE ACCOMMODATION IN WEST END.

Exceptionally well-lit Office in West End, comprising private office and good drawing office, also private office already let. Present tenant leaving because of partnership change. Large enough to run big jobs. Opportunity for Architect or Engineer. Rent reasonable.—Apply Box No. 2012, c/o Secretary R.I.B.A.

Architects' and Surveyors' Approved Society

Architects' Assistants' Insurance for the National Health and Pensions Acts

Architects' Assistants are advised to apply for the prospectus of the Architects' and Surveyors' Approved Society, which may be obtained from the Secretary of the Society, 26 Buckingham Gate, London, S.W.1.

The Society deals with questions of insurability for the National Health and Pensions Acts (for England) under which, in general, those employed at remuneration not exceeding £250 per annum are compulsorily insurable.

In addition to the usual sickness, disablement, and maternity benefits, the Society makes grants towards the cost of dental or optical treatment (including provision of spectacles).

No membership fee is payable beyond the normal Health and Pensions Insurance contribution.

The R.I.B.A. has representatives on the Committee of Management, and insured Assistants joining the Society can rely on prompt and sympathetic settlement of claims.

A.B.S. Insurance Department

PENSION AND FAMILY PROVISION SCHEME FOR ARCHITECTS

This scheme has been formulated by the Insurance Committee of the Architects' Benevolent Society and is available to all members of the R.I.B.A. and its Allied and Associated Societies.

The benefits under the scheme include :—

(1) A Member's Pension, which may be effected for units of £50 per annum, payable monthly and commencing on attainment of the anniversary of entry nearest to age 65. This pension is guaranteed over a minimum period of five years and payable thereafter for the remainder of life.

(2) The Beneficiary's Pension, payable as from the anniversary mentioned in Benefit No. 1, but to the widow (or other nominated beneficiary) if the member dies before age 65. The amount of this pension is adjusted in accordance with the disparity between the ages of the member and his wife.

(3) Family Provision. Under this benefit a payment of £50 yearly is made to the dependent from the date of death of the member prior to age 65 until attainment of the anniversary previously mentioned, after which benefit No. 2 becomes available.

Provision can be made for any number of units (of £50 per annum) up to a maximum of £500 per annum.

Pension benefit only may be secured if desired and the pension commuted for a cash sum.

Members are entitled to claim rebate of Income Tax on their periodical contributions to the scheme both in respect of pension and of family provision benefit.

Full particulars of the scheme will be sent on application to the Secretary, A.B.S. Insurance Department, 66 Portland Place, W.1.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. Journal must be taken as the individual opinions of their authors and not as representative expressions of the Institute.

Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.

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